LETTER OF TRANSMITTAL

TO: Dept of Regulatory & Economic Resources
11805 SW 26th Street (Coral Way)
Miami, FL 33175
Ph: 786-315-2000 (7:30am - 4pm)

DATE: 2/25/16	PROJECT NO..
ATTENTION. Plan Intake	
RE. Sunglass Hut	

WE ARE SENDING YOU: ☐ Attached ☐ Under separate cover via ________ the following items:

☐ Shop drawings ☐ Prints ☒ Plans ☐ Samples ☒ Specifications ☐ Change Order

☒ Copy of letter ☐ Other:

COPIES	DATE	NO.	DESCRIPTION
1	8/20/15	1	Signed, Dated & Stamped Architechtural Plans
1	2/19/16	1	Signed, Dated & Stamped Material Specifications
1	2/4/16	1	Submittal Letter from Engineer
1	2/24/16	1	Permit Application
1	2/19/16	1	Authorization Letter from Owner

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit ____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit ____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return ____ corrected prints

☐ For review and comment ☐ FOR BIDS DUE:

COMMENTS:

Miami Dade County Department of Regulatory And Economic Resources
0001159368 - 3/7/2016 5:11:21 PM
GENERAL01-03022016.pdf
Examiner SIGN Date Time Stamp Discipline Trade Stamp Name DATE: 2/24/16
JoAnn Fiorello 3/3/2016 8:47:20 AM A ZONE Approved

Please notify us immediately if enclosures are not as noted.

DADELAND MALL
A SIMON MALL

February 19, 2016

Miami-Dade Permitting and Inspection Center
11805 SW 26 Street
Miami, Fl 33175

Re: Sunglass Hut 7535 N. Kendall Drive, **Space #K112A**

SDG Dadeland Associates, Inc. hereby authorizes Eric Russell, Senior Director of Construction to sign any and all necessary Permit Applications and other documents pertinent to the Sunglass Hut kios, at Dadeland Mall.

Sincerely,

SDG DADELAND ASSOCIATES, INC.
Irma Castor
Mall Manager
Dadeland Mall

Liessy Mendoza
COMMISSION #FF246716
EXPIRES: July 5, 2019
WWW.AARONNOTARY.COM

Miami Dade County Department of Regulatory And Economic Resources
0001159368 - 3/7/2016 5:11:21 PM
GENERAL01-03022016.pdf

Examiner	Date Time Stamp	Disp.	Trade	Stamp Name
JoAnn Fiuello	3/3/2016 8:47:20 AM	A	ZONE	Approved

J3 ENGINEERING GROUP, LLC.

2/4/2016

Department of Regulatory & Economic Resources
Herbert S Saffir Permitting and Inspection Center
11805 SW 26th Street (Coral Way)
Miami, FL 33175-2474

Project Name - Location: Sunglass Hut #4101 – 7459 SW 88th Street, Miami, FL
J3 Reference Number: 160045

Department of Regulatory & Economic Resources:

We are including this letter with our interior alteration application for permit. We are installing a new 10' x 18' kiosk going into the mall identified above. The footprint of the kiosk is 186 square feet. We are working with our client TJ Hale (full address below) to provide this submittal.

If you have any questions with the information presented in this letter please feel free to contact Terri immediately at the phone number or email address indicated below.

The kiosk is constructed of Class C melamine-faced wood product that is clad with Corian, glass and aluminum – all Class A materials. This kiosk is to be placed into a mall having an approved automatic sprinkler system and detection devices. The horizontal separation between other kiosks is to be not less than 20'.

This kiosk has an ADA compliant shelf on the gate which meets code requirements.

Per ASCE 7 – 2010 Chapter 13 Seismic Design Requirements for Nonstructural Components, Section 13.1.4 Exemptions – Furniture. Per the Commentary section, *Furnishings may shift during strong ground shaking, but pose minimal hazards.* Therefore this kiosk does not require structural analysis.

We are providing this brief description of the accompanying materials submitted with this application:

A. Plan drawings containing the seal and signature of the design professional:
    1. TJ Hale Sunglass Hut Kiosk drawings with cover sheet and drawings 1 thru 6 of 6 (7 pages, 11x17 size), online submittal. Sealed by James R. Gerloff, P.E.
B. Project documents included with this submittal:
    1. Building Permit Application
    2. Notice of Commencement
    3. TJ Hale kiosk material specifications. Cover sheet sealed by James R. Gerloff, P.E.
    4. Interior survey showing location of kiosk within Mall

In closing, we hope this Application package includes all of the required information you need for your review process. If you have any additional questions or concerns regarding the information presented in this application please feel free to contact Terri immediately via email her.

J3 ENGINEERING GROUP, LLC.

Sincerely,

Douglas D. Reed
Project Manager
J3 Engineering Group, LLC

Terri Brozowski
Client Team Assistant
TJ Hale
W139 N9499 Hwy 145, PO Box 250
Menomonee Falls, WI 53052-0250
262-509-5566
terri_b@tjhale.com

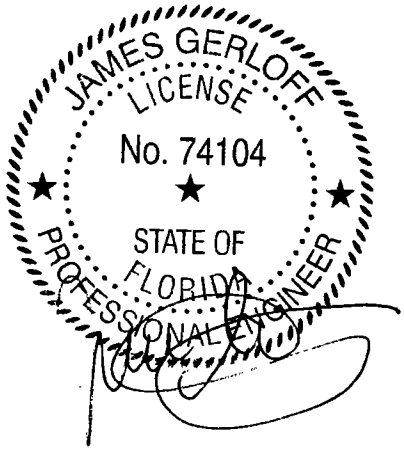
Sunglass Hut

4101 Dadeland Mall

7459 SW 99th Street

Miami, FL 33156-7723

MATERIAL SPECIFICATIONS



02/19/2016

J3 Engineering Group, LLC
1035 W. Glen Oaks Lane
Suite 200
Mequon, WI 53092

Firm COA Number: 29858

Acrylic

Barefoot Anti-fatigue Mat

Corian

Flakeboard melamine

Hera LED lights

Jesco lights

LSI lights

Nevarmar laminate

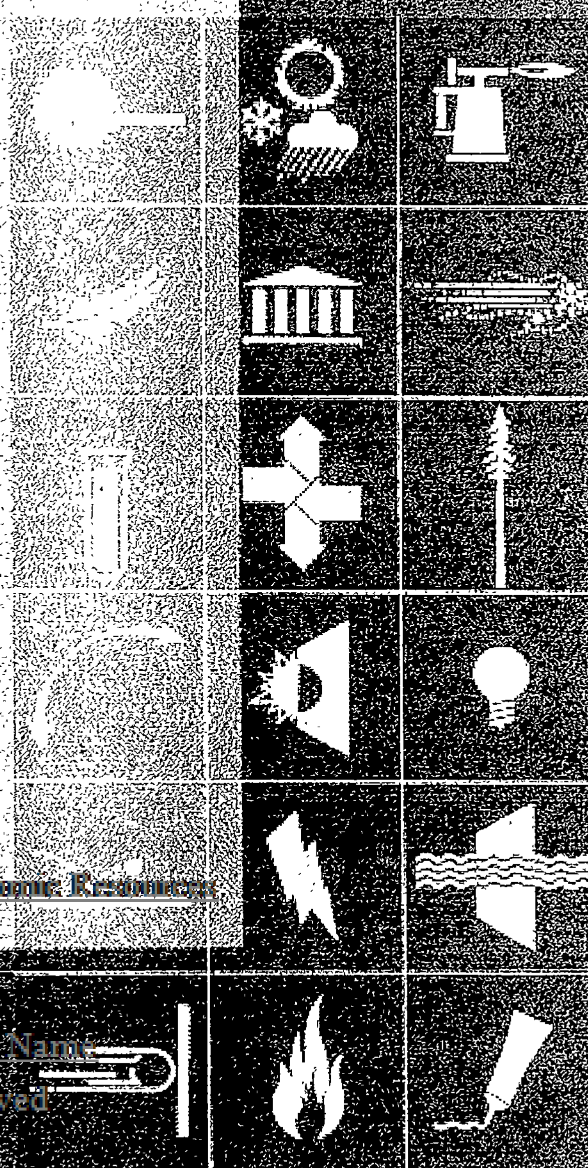
Stylmark aluminum

Tempered glass

CYRO

Physical properties of Acrylite® GP

ACRYLIC SHEET



Physical Properties of Acrylite® GP ACRYLIC SHEET

Property[a]		ASTM Method	Typical Value (.236" Thickness)[b]
Mechanical	Specific Gravity	D 792	1.19
	Tensile Strength	D 638	10,000 psi (69 M Pa)
	Elongation, Rupture		4.2%
	Modulus of Elasticity		400,000 psi (2800 M Pa)
	Flexural Strength (Rupture)	D 790	16,500 psi (114 M Pa)
	Modulus of Elasticity		475,000 psi (3300 M Pa)
	Compressive Strength (Yield)	D 695	18,000 psi (124 M Pa)
	Modulus of Elasticity		430,000 psi (2960 M Pa)
	Shear Strength	D732	9,000 psi (62 M Pa)
	Impact Strength		0.4 ft. lbs/in. of notch
	Izod Milled Notch	D 256	(21.6 J/m of notch)
	Rockwell Hardness	D785	M-94
	Barcol Hardness	D 2583	49
	Residual Shrinkage[c] (Internal Strain)	D 702	2%
Optical (Clear Material)	Refractive Index	D 542	1.49
	Light Transmission, Total	D 1003	92%
	UV Transmission		0 at 320 nanometers
	Haze		Less than 1%
Thermal	Forming Temperature	—	340-380°F (170-190°C)
	Deflection Temperature under load, 264 psi	D 648	210°F (99°C)
	Vicat Softening Point	D 1525	239°F (115°C)
	Maximum Recommended Continuous Service Temperature	—	180°F [d] (82°C)
	Coefficient of Linear Thermal Expansion	D 696	0.000040 in/in-°F (0.000072 m/m-°C)
	Coefficient of Thermal Conductivity (k-Factor)	Cenco-Fitch	1.3 BTU/(Hr) (Sq. Ft.) (°F/in.) (0.19 w/m·K)
	Flammability (Burning Rate 3mm thickness)	D 635	1.2 in/min. (30.5 mm/min.)
	Self-Ignition Temperature	D 1929	910°F(490°C)
	Specific Heat @ 77°F	—	0.35 BTU/(lb.) (°F) (1470 J/Kg·k)
	Smoke Density Rating (3mm thickness)	D 2843	11.4%
Electrical	Dielectric Strength		
	Short Time (0. 1 25"-thickness)	D 149	430 volts/mil (17 KV/mm)
	Dielectric Constant		
	60 Hertz	D 150	3.5
	1,000 Hertz		3.2
	1,000,000 Hertz		2.7
	Dissipation Factor		
	60 Hertz	D 150	0.06
	1,000 Hertz		0.04
	1,000,000 Hertz		0.02
	Volume Resistivity	D 257	1.6 x 10^{16} ohm-cm
	Surface Resistivity	D 257	1.9 X 10^{15} ohms
Water Absorption	24 hrs @ 73°F	D 570	0.2%
	Weight Gain during Immersion		0.2%
	Soluble Matter Lost		0.0%
	Water Absorbed		0.2%
	Dimensional Change during Immersion		0.2%
Long Term Water Absorption	Weight Gain during Immersion	D 570	
	7 days		0.5%
	14 days		0.6%
	21 days		0.8%
	35 days		1.0%
	48 days		1.1%
Odor		—	None
Taste			None

NOTES: (a) Typical values: should not be used for specification purposes.
(b) Values shown are for 6mm thickness unless noted otherwise. Some values will change with thickness.
(c) Difference in length and width, as measured at room temperature, before and after heating above 300°F.
(d) It is recommended that temperatures not exceed 180°F for continuous service, or 200°F for short, intermittent use.

Acrylite® GP
ACRYLIC SHEET

ACRYLITE® GP acrylic sheet is a cell-cast acrylic sheet made to exacting standards. It offers excellent optical characteristics, thickness tolerances, light stability, and low internal stress levels for consistent performance.

Colorless ACRYLITE GP sheet carries an exclusive 10-year limited warranty on light transmission, your assurance of a quality product. A printed copy of the warranty is available from CYRO Industries or wherever ACRYLITE® acrylic sheet is sold.

In addition to colorless sheet, a wide range of transparent, translucent and opaque colors are also available.

Characteristics

ACRYLITE GP sheet is a lightweight, rigid thermoplastic material that has many times the breakage resistance of standard window pane glass. It is highly resistant to weather conditions. ACRYLITE GP sheet can be easily sawed, machined, thermoformed, and cemented. It is suitable for most commercial applications and is ultraviolet light absorbing up to approximately 360 nanometers.

For greater ultraviolet light transmission, ACRYLITE® OP-1 or ACRYLITE® OP-4 acrylic sheet may be used. For greater ultraviolet light absorption, ACRYLITE® OP-2 acrylic sheet filters out more of the UV radiation than regular ACRYLITE GP sheet grades.

For security applications, ACRYLITE GP 1.25" sheet may be used.

Because of its unique properties, ACRYLITE GP acrylic sheet is ideal for a wide range of applications, such as:

- Merchandising Displays
- Security Glazing
- Industrial and School Glazing
- Lighting Fixture Diffusers
- Aquariums
- Shower Enclosures
- Decorative Paneling
- Hockey Rinks
- Skylights
- Signs

Availability

ACRYLITE GP sheet is available in thicknesses from .060" to 2" (1.5 mm to 50 mm) and in more than 40 standard sizes from 36" x 48" to 72" x 120" (1.83 m x 3.05 m). Sheets can be furnished masked with paper or polyethylene film, or half-masked.

Colorless sheets and over 50 standard colors are available from distributors across the country. Custom colors can be made to order.

ACRYLITE GP sheet is also available with a non-glare, matte surface as ACRYLITE® GP P-95 and ACRYLITE® GP DP-9 acrylic sheet. Both retain the same physical properties of standard ACRYLITE GP sheet with the addition of the matte surface. ACRYLITE GP P-95 sheet offers a one-sided textured non-glare surface, while ACRYLITE GP DP-9 sheet offers the same surface on two sides.

Safety

ACRYLITE GP sheet is more impact-resistant than glass. If subjected to impact beyond the limit of its resistance, it does not shatter into small slivers but breaks into comparatively large pieces. ACRYLITE GP sheet meets the requirements of ANSI Z 97.1 for use as a Safety Glazing material in Buildings (for thicknesses 0.080" [2.0 mm] to 0.500" [1 2.7mm]).

Weather Resistance

Acrylic offers better weather resistance than other types of transparent plastics. ACRYLITE GP sheet will withstand exposure to blazing sun, extreme cold, sudden temperature changes, salt water spray and other harsh conditions. It will not deteriorate after many years of service because of the inherent stability of acrylic. ACRYLITE GP sheet has been widely accepted for use in skylights, school buildings, industrial plants, aircraft glazing and outdoor signs.

Dimensional Stability

Although ACRYLITE GP sheet will expand and contract due to changes in temperature and humidity, it will not shrink with age. Some shrinkage occurs when ACRYLITE GP sheet is heated to forming temperature.

Light Weight

ACRYLITE GP sheet is less than half the weight of glass, and 43% the weight of aluminum. One square foot of 1/8" (3.0 mm) thick ACRYLITE GP sheet weighs less than 3/4 pound (1/3 kilogram).

Rigidity

ACRYLITE GP sheet is not as rigid as glass or metals. However, it is more rigid than many other plastics such as acetates, polycarbonates, or vinyls. Under wind load, a sheet will bow and lose strength as a result of deflection. For glazing installations,

the maximum wind load and the size of the window must be considered when the thickness of the panel and the depth and width of the glazing channels are to be determined.

If ACRYLITE GP sheet is formed into corrugated or domed shapes, rigidity is increased and deflection minimized.

Cold Flow

Large, flat ACRYLITE GP sheet may deform due to continuous loads such as snow, or even from its own weight if not sufficiently supported. Increased rigidity obtained by forming will minimize cold flow.

Strength and Stresses

Although the tensile strength of ACRYLITE GP sheet is 10,000 psi (69 MPa) at room temperature (ASTM D638), stress crazing can be caused by continuous loads below this value. For most applications, continuously imposed design loads should not exceed 1,500 psi (10.4 MPa).

Localized, concentrated stresses must be avoided. For this reason, and because of thermal expansion and contraction, large sheets should never be fastened with bolts, but should always be installed in frames.

All thermoplastic materials-including ACRYLITE GP sheet-will gradually lose tensile strength as the temperature approaches the maximum recommended for continuous service. For ACRYLITE GP sheet, the maximum is 180°F (82°C).

Expansion and Contraction

Like most other plastics, ACRYLITE GP sheet will expand 3 times as much as metals, and 8 times as much as glass. The designer should be aware of this rather large coefficient of expansion. A 48" panel will expand and contract approximately .002" for each degree fahrenheit change in temperature. In outdoor use, where summer and winter temperatures differ as much as 100°F, a 48" sheet will expand and contract approximately 3/16". Glazing channels must be of sufficient depth to allow for expansion as well as for contraction.

ACRYLITE GP sheet also absorbs water when exposed to high relative humidities, resulting in expansion of the sheet. At relative humidities of 100%, 80%, and 60%, the dimensional changes are 0.6%, 0.4% and 0.2%, respectively.

Heat Resistance

ACRYLITE GP sheet can be used at temperatures from -40°F (-40°C) up to +200°F (93°C), depending on the application. It is recommended that temperatures not exceed 180°F for continuous service, or 200°F for short, intermittent use. Components made of ACRYLITE GP sheet should not be exposed to high heat sources such as high wattage incandescent lamps, unless the finished product is ventilated to permit the dissipation of heat.

Light Transmission

Clear, colorless ACRYLITE GP sheet has a light transmittance of 92%. It is warranted not to lose more than 3% of its light-transmitting ability in a 10-year period. Contact CYRO Industries for the complete warranty.

ACRYLITE OP-1 and ACRYLITE OP-4 sheet (ultraviolet transmitting) transmit more ultraviolet light in the range from 240 to 380 nanometers than regular ACRYLITE GP sheet grades. ACRYLITE OP-2 sheet (ultraviolet filtering) absorbs more radiation in the ultraviolet range below 400 nanometers than regular ACRYLITE GP sheet grades. It is used to protect art objects and documents from the damaging effects of ultraviolet light.

Solar Energy Control

Transparent colored ACRYLITE GP sheet can be used to reduce glare and solar energy transmittance. Sheets are available in a wide range of colors with light transmittance values from approximately 6% to 79%. This broad selection enables the designer to choose a color which provides adequate daylight while, at the same time, controls glare and solar heat buildup.

Translucent white and translucent colored ACRYLITE GP sheet diffuses light. Some transparent colored sheets diffuse light to some extent.

Chemical Resistance

ACRYLITE GP sheet has excellent resistance to many chemicals including:
- solutions of inorganic alkalies such as ammonia
- dilute acids such as sulfuric acid up to a concentration of 30%
- aliphatic hydrocarbons such as hexane

ACRYLITE GP sheet is not attacked by most foods, and foods are not affected by it.

It is attacked, in varying degrees, by:
- aromatic solvents such as benzene and toluene
- chlorinated hydrocarbons such as methylene chloride and carbon tetrachloride
- ethyl and methyl alcohols
- some organic acids such as acetic acid
- lacquer thinners, esters, ketones and ethers

For a listing of the resistance of ACRYLITE GP sheet to more than 70 chemicals, refer to the table on page 7.

Formability

ACRYLITE GP sheet will soften gradually as the temperature is increased above 210°F (99°C). At temperatures from 340°F to 380°F (171°C to 193°C), it becomes soft and pliable and can be formed into almost any shape using inexpensive molds. The optimum forming temperature within this range depends on thickness and desired depth of draw. ACRYLITE GP sheet will typically shrink 1.5% when heated without a frame. As the sheet cools, it will harden and retain the formed shape.

Because ACRYLITE GP sheet is a thermoplastic material, heating a formed part to temperatures above 210°F (99°C) may cause it to revert to its original flat condition.

Cutting and Machining

ACRYLITE GP sheet can be sawed with circular saws or band saws. It can be drilled, routed, filed and machined much like wood or brass with a slight modification of tools. Cooling of the cutting tool is recommended to keep the machined edge of the sheet as cool and stress free as possible. Heat buildup should be avoided because it could lead to stress crazing. Tool sharpness and "trueness" are also essential to prevent gumming, heat buildup and stresses in the part.

Laser Cutting

Laser technology is rapidly being accepted by the industry for quick and accurate cutting, welding, drilling, scribing, and engraving of plastics.

CO_2 lasers focus a large amount of light energy on a very small area which is extremely effective for cutting complex shapes in acrylic sheet. The laser beam produces a narrow kerf in the plastic allowing for close nesting of parts and minimal waste. CO_2 lasers vaporize the acrylic as they advance resulting in a clean polished edge but with high stress levels; annealing acrylic sheet after laser cutting is recommended to minimize the chance of crazing during the service life of the part.

Cementing

ACRYLITE GP sheet can be cemented using common solvent cements or polymerizable cements. The most critical factor is the edge of the part to be cemented. The edge must have been properly machined so as to have a square flat surface and no stresses. Annealing of the part prior to cementing is recommended. Cement and cement fumes should not contact formed or polished surfaces.

Annealing

To eliminate stresses caused by machining and/or polishing, annealing is recommended. ACRYLITE GP sheet may be annealed at 180°F (82°C) with the heating and cooling times determined by the sheet thickness. An approximate guideline is: annealing time in hours equals the sheet thickness in millimeters and the cool-down period is a minimum of 2 hours ending when sheet temperature falls below 140°F. For example, 1/8" (3 mm) ACRYLITE GP sheet would be heated for 3 hours at 180°F (82°C) and slowly cooled for at least 2 hours.

Flammability

ACRYLITE GP sheet is a combustible thermoplastic. Precautions should be taken to protect the material from flames and high heat sources. ACRYLITE GP sheet usually burns rapidly to completion if not extinguished. The products of combustion, if sufficient air is present, are carbon dioxide and water. However, in many fires sufficient air will not be available and toxic carbon monoxide will be formed, as it is from other combustible materials. We urge good engineering practice in the use of this material and recommend that building codes be followed carefully to ensure it is used properly.

Other properties related to flammability:
- Burning rate is 1.2 inches per minute (for 3 mm thickness) according to ASTM D 635.
- Smoke density: Measured by ASTM D 2843 is 11.4%.
- Self-ignition temperature is 910°F (488°C) when measured in accordance with ASTM D 1929.

While these test data are based on small scale laboratory tests frequently referenced in various building codes, they do not duplicate actual fire conditions.

ACRYLITE GP sheet meets the requirements of the following building codes for use as a Light Transmitting Plastic:

- NES (See National Evaluation Services, Inc., Report # NER-582)
- ICBO (See ICBO Evaluation Services, Inc., Evaluation Report #3715-CC2 Classification)
- BOCA and SBCCI (Accept National Evaluation Services, Inc., Report # NER-582)

Thermal Conductivity

The thermal conductivity of a material-its ability to conduct heat-is called the k-Factor. The k-Factor is an inherent property of the material and is independent of its thickness and of the surroundings to which it is exposed.

The k-Factor of ACRYLITE GP sheet is: $\frac{1.3 \text{ B.T.U.}}{\text{(hour) (sq. ft.) (°F /inch)}}$ or $\frac{0.19 \text{ W}}{\text{m.K}}$

Whereas the k-Factor is a physical property of the material, the U-Factor—or overall coefficient of heat transfer—is the value used to calculate the total heat loss or gain through a window.

The U-Factor is the amount of heat, per unit time and area, which will pass through a specific thickness and configuration of material per degree of temperature difference between each of the two sides.

This value takes into account the thickness of the sheet, whether the sheet is in a horizontal or vertical position, as well as the wind velocity.

U-Factors are based on specific conditions (e.g., single-glazed or double-glazed installations) and are different for summer and winter.

Listed below are U-Factors for several thicknesses of ACRYLITE GP sheet for single-glazed, vertical installations, based on the standard ASHRAE* summer and winter design conditions.

U-Factors—BTU/hour sq. ft. F° (w/m² • K)

ACRYLITE GP Sheet Thickness mm	inches	Summer Conditions	Winter Conditions
3.0	.118	0.98 (5.56)	1.06 (6.02)
4.5	.177	0.94 (5.34)	1.02 (5.79)
6.0	.236	0.90 (5.11)	0.97 (5.51)
9.0	.354	0.83 (4.71)	0.89 (5.05)
31.5	1.25	0.56 (3.18)	0.58 (3.29)

*American Society of Heating, Refrigerating and Air-Conditioning Engineers

The total heat loss or gain through a window (due to temperature difference only) can be calculated by multiplying the area of the window, times the difference between indoor and outdoor temperatures, times the appropriate U-Factor (from Table above). Heat intake through solar radiation must be added to arrive at the total heat gain.

ACRYLITE GP sheet is a better insulator than glass. Its U-Factor or heat transfer value is approximately 10% lower than that of glass of the same thickness. Conversely, its R_T-Factor is about 10% greater.

Thermal Shock and Stresses

ACRYLITE GP sheet is more resistant than glass to thermal shock and to stresses caused by substantial temperature differences between a sunlit and a shaded area of a window, or by temperature differences between opposite surfaces of a window.

Surface Hardness

The surface of plastic is not as hard as that of glass. Therefore, reasonable care should be exercised in handling and cleaning ACRYLITE GP sheet.

Electrical Properties

ACRYLITE GP sheet has many desirable electrical properties and continuous outdoor exposure has little effect on these properties. It is a good insulator with surface resistivity higher than that of most plastics.

Chemical Resistance of Acrylite® GP ACRYLIC SHEET

The table below gives an indication of the chemical resistance of clear ACRYLITE GP sheet. The code used to describe chemical resistance is as follows:

R = Resistant
ACRYLITE GP sheet withstands this substance for long periods and at temperatures up to 120°F (49°C).

LR = Limited Resistance
ACRYLITE GP sheet only resists the action of this substance for short periods at room temperatures. The resistance for a particular application must be determined.

N= Not Resistant
ACRYLITE GP sheet is not resistant to this substance. It is either swelled, attacked, dissolved or damaged in some manner.

Plastic materials can be attacked by chemicals in several ways. The methods of fabrication and/or conditions of exposure of ACRYLITE GP sheet, as well as the manner in which the chemicals are applied, can influence the final results even for "R" coded chemicals. Some of these factors are listed below.

Fabrication-Stress generated while sawing, sanding, machining, drilling, polishing, and/or forming.

Exposure-Length of exposure, stresses induced during the life of the product due to various loads, changes in temperatures, etc.

Application of Chemicals-by contact, rubbing, wiping, spraying, etc.

The table therefore should be used only as a general guide and, in case of doubt, supplemented by tests made under actual working conditions.

Chemical	Code	Chemical	Code
Acetic-Acid (5%)	R	Hydrogen Peroxide (up to 40%)	R
Acetic Acid (Glacial)	N	Hydrogen Peroxide (over 40%)	N
Acetone	N	Isopropyl Alcohol (up to 50%)	LR
Ammonium Chloride (Saturated)	R	Kerosene	R
Ammonium Hydroxide (10%)	R	Lacquer Thinner	N
Ammonium Hydroxide (Conc.)	R	Methyl Alcohol (up to 15%)	LR
Aniline	N	Methyl Alcohol (100%)	N
Battery Acid	R	Methyl Ethyl Ketone (MEK)	N
Benzene	N	Methylene Chloride	N
Butyl Acetate	N	Mineral Oil	R
Calcium Chloride (Sat.)	R	Naphtha (VM&P)	R
Calcium Hypochlorite	R	Nitric Acid (up to 20%)	R
Carbon Tetrachloride	N	Nitric Acid (20%-70%)	LR
Chloroform	N	Nitric Acid (over 70%)	N
Chromic Acid	LR	Oleic Acid	R
Citric Acid (20%)	R	Olive Oil	R
Detergent Solution (Heavy Duty)	R	Phenols	N
Diesel Oil	R	Soap Solution (Ivory)	R
Dimethyl Formamide	N	Sodium Carbonate	R
Dioctyl Phthalate	N	Sodium Chloride	R
Ether	N	Sodium Hydroxide	R
Ethyl Acetate	N	Sodium Hypochlorite	R
Ethyl Alcohol (30%)	LR	Sulfuric Acid (up to 30%)	R
Ethyl Alcohol (95%)	N	Sulfuric Acid (Conc.)	LR
Ethylene Dichloride	N	Toluene	N
Ethylene Glycol	R	Trichloroethylene	N
Formaldehyde (40%)	R	Turpentine	LR
Gasoline (Regular, Leaded)	LR	Water (Distilled)	R
Glycerine	R	Xylene	N
Heptane	R		
Hexane (Commercial Grade)	R		
Hydrochloric Acid	R		
Hydrofluoric Acid (40%)	N		

Acrylite® GP
ACRYLIC SHEET

Important Notice: The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which CYRO assumes legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE. Nothing herein is to be taken as permission, inducement or recommendation to practice any patented invention without a license.

Degussa, CYRO Industries
379 Interpace Parkway, PO Box 677, Parsippany, NJ 07054
800-631-5384 www.cyro.com www.degussa.com

CYRO.COM TECH KNOWLEDGE CENTER
CLICK HERE

Visit the Technology Center at www.cyro.com. Visitors have immediate access to frequently asked questions, technical information, fabrication tips, physical properties, and hundreds of other facts about acrylics from North America's leading acrylic sheet manufacturer.

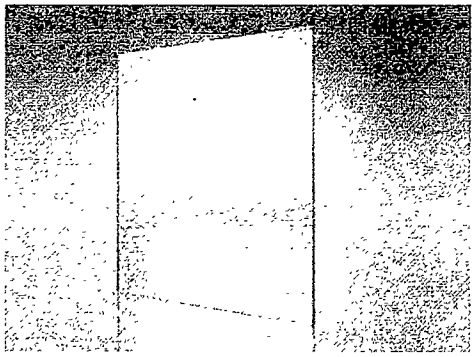
CYRO

1235E-0402-10MG

All features selected will be carried into your sample request or custom quote.

REQUEST QUOTE

REQUEST SAMPLE



DURAPLEX IMPACT MODIFIED ACRYLIC

DURAPLEX continuously-processed, impact-modified acrylic sheet is up to 30 times stronger than double-strength window glass and 50 times stronger than polished wire glass or other glasses, making it an excellent choice for displays, skylights, signage and replacement windows. DURAPLEX is available in custom impact blends and a range of thicknesses, widths, colors and patterns and in flat sheets or roll stock.

SHARE

STOCK & NON-STOCK COLORS

*Colors on screen may not reflect exact matches to physical sheets.

*Custom colors available.

*Non-Stock colors, patterns or sizes may require a minimum quantity order.

PRODUCT DETAILS RUN-TO-SIZE

Thickness: .040" - .500"

Width: 5" - 105"

Length: 14" - 216"

Features: Weatherable

STOCK ITEMS FEATURES & BENEFITS PROPERTIES RESOURCES

Download

Physical	Test method	Units	DURAPLEX 30%	DURAPLEX OPTIX SG05 (50%)	DURAPLEX 70%	DURAPLEX OPTIX SG10 (100%)
Specific Gravity/Relative Density	ASTM D-792		1.18	1.17	1.16	1.15
Light Transmission -Total	ASTM D-1003	%	92	92	90	90
Light Transmission - Haze	ASTM D-1003	%	2	2	>3	>3
Water Absorption	ASTM D-570	% By wt	0.3	0.3	0.3	0.3
Mold Shrinkage	ASTM D-955	mils/in	3-6	3-6	3-6	3-6

Mechanical	Test method	Units	DURAPLEX 30%	DURAPLEX OPTIX SG05 (50%)	DURAPLEX 70%	DURAPLEX OPTIX SG10 (100%)
Tensile Strength	ASTM D-638	psi	9,000	8,000	7,100	5,600
Tensile Modulus of Elasticity	--	psi	376,000	340,000	304,000	250,000
Flexural Strength	ASTM D-790	psi	13,690	12,000	10,610	8,300
Izod Impact Strength – Molded Notch	ASTM D-256	ft-lb/in Notch	0.6	0.7	0.9	1.1
Ball Drop Impact			Pass	Pass	Pass	Pass
Rockwell Hardness	ASTM D-785		M-78	M-68	M-59	M-46

Thermal	Test method	Units	DURAPLEX 30%	DURAPLEX OPTIX SG05 (50%)	DURAPLEX 70%	DURAPLEX OPTIX SG10 (100%)
Deflection Temperature @ 264 psi (1.8 MPa)	ASTM D-648	°F	198	194	190	185
Coefficient of Thermal Expansion	ASTM D-696	in/(in-°F) x 10^{-5}	3.5	4	4.5	5
Flammability (Burning Rate)	ASTM D-635	in/minute	0.85	1.25	1.53	1.97
Flammability	UL 94		HB	HB	HB	HB
Smoke Density Rating	ASTM D-2843	%	5.2	8.5	11.5	16.5

Thermal	Test method	Units	DURAPLEX 30%	DURAPLEX OPTIX SG05 (50%)	DURAPLEX 70%	DURAPLEX OPTIX SG10 (100%)

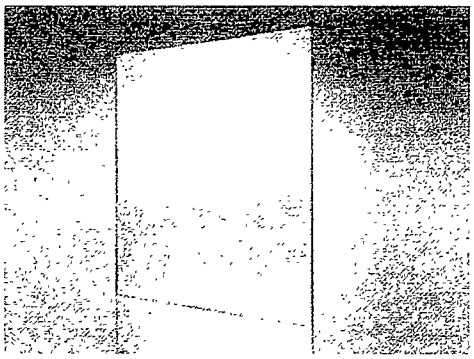
These suggestions and data are based on information we believe to be reliable. They are offered in good faith but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

BACK TO RESULTS

All features selected will be carried into your sample request or custom quote.

REQUEST QUOTE

REQUEST SAMPLE



DURAPLEX IMPACT MODIFIED ACRYLIC

DURAPLEX continuously-processed, impact-modified acrylic sheet is up to 30 times stronger than double-strength window glass and 50 times stronger than polished wire glass or other glasses, making it an excellent choice for displays, skylights, signage and replacement windows. DURAPLEX is available in custom impact blends and a range of thicknesses, widths, colors and patterns and in flat sheets or roll stock.

SHARE

STOCK & NON-STOCK COLORS

*Colors on screen may not reflect exact matches to physical sheets.

*Custom colors available

*Non-Stock colors, patterns or sizes may require a minimum quantity order.

PRODUCT DETAILS

Thickness: .040" - .500"

Width: 5" - 105"

Length: 14" - 216"

Features: Weatherable

RUN-TO-SIZE

STOCK ITEMS **FEATURES & BENEFITS** PROPERTIES RESOURCES

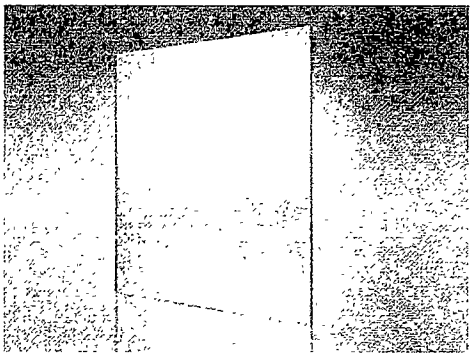
- 40% impact modified acrylic is 5 to 6 times stronger than general purpose acrylic, 10 to 15 times stronger than double strength window glass, and 20 to 30 times stronger than polished wire glass or other glasses
- 100% impact modified acrylic is 10 times stronger than general purpose acrylic, approximately 20 to 30 times stronger than double strength window glass, approximately 40 to 50 times stronger than polished wire glass or other glasses
- Thicknesses .040"–.500"; widths up to 105"
- Offered in clear, colors, patterns, and Run-To-Size
- Alternative to Polycarbonate sheet

BACK TO RESULTS

All features selected will be carried into your sample request or custom quote.

REQUEST QUOTE

REQUEST SAMPLE



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PRODUCT DETAILS

Thickness: .040" - .500"

Width: 5" - 105"

Length: 14" - 216"

Features: Weatherable

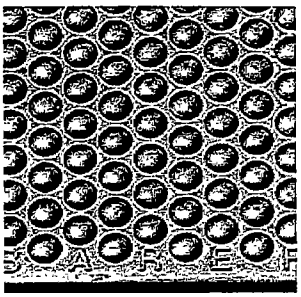
RUN-TO-SIZE

STOCK ITEMS FEATURES & BENEFITS PROPERTIES RESOURCES

	Item #	Finishes	Thickness (in.)	Size (in.)	Sq. Ft.	Pack Qty.	Skid Qty.	Masking
	1X08126A	40% Impact Modified	.080	30" x 60"	12.5	5	N/A	Clear Polyfilm / White Polyfilm
	1X08127A	40% Impact Modified	.080	24" x 48"	8	6	N/A	Clear Polyfilm / White Polyfilm
	1X08123A	40% Impact Modified	.080	18" x 24"	3	10	N/A	Clear Polyfilm / White Polyfilm
	1X08105A	40% Impact Modified	.093	8" x 10"	.5	5	N/A	Clear Polyfilm / White Polyfilm
	1X02448A	40% Impact Modified	.093	24" x 48"	8	10	N/A	Clear Polyfilm / White Polyfilm
	1X02830A	40% Impact Modified	.093	28" x 30"	5.83	10	N/A	Clear Polyfilm / White Polyfilm
	1X03244A	40% Impact Modified	.093	32" x 44"	9.77	10	N/A	Clear Polyfilm / White Polyfilm
	1X47435A	70% Impact Modified	.118	48" x 96"	32	5	N/A	Clear Polyfilm / White Polyfilm
	1X47433A	70% Impact Modified	.177	48" x 96"	32	3	N/A	Clear Polyfilm / White Polyfilm

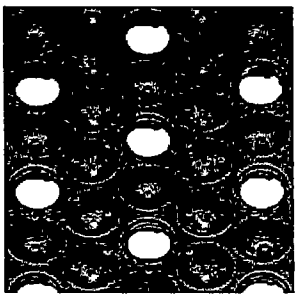
Recipient of more Patents and Awards than any other anti fatigue ergonomic mat.

Barefoot Flooring Mat Products



Solid Surface

Dry applications



Drain-Thru

Wet applications

Available Types

Standard	○	○
Nitrile	○	○
ESD	○	

Material Descriptions

Standard	Details
High grade EPDM rubber. Excellent for most all applications that do not come in contact with petroleum derivatives and harsh chemicals. UV and ozone resistant.	There is nothing "standard" about this material. It is automotive-grade rubber with excellent physical properties and equally excellent UV and Ozone resistance.
Nitrile - Oil Resistant	Details
Quality blended Nitrile rubber with a high degree of oil resistance. Excellent for manufacturing plants and machine shops where exposure to shop oils can degrade standard rubbers.	In areas that are exposed to grease and oil, use Nitrile rubber. Oil and Chemical Resistance / Nitrile compound: Nitrile rubber (acrylonitrile butadiene rubber) has resistance to aliphatic and aromatic hydrocarbons, acid and alkali. Example include motor oil, hydraulic oil and petroleum greases and paint thinner. Nitrile rubber performs poorly when exposed to oxygenated solvents and chlorinated hydrocarbons.

Mats in oily areas must be properly maintained. Examples include MEK (methyl ethyl ketone) methylene chloride, xylene and bleach.

Conductive / ESD

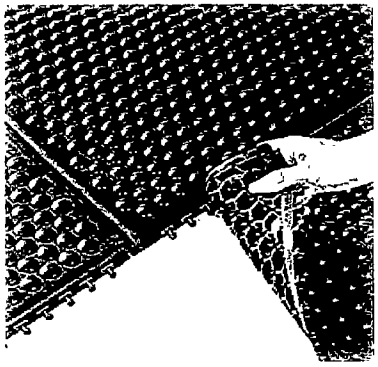
Specially compounded EPDM rubber for the electronics industry. Each module is certified to be 1 x 10 to the 4th to 1 x 10 6th ohms, surface to ground resistance.

Details

The ESD version of Barefoot® has the same ergonomic qualities as the Standard Barefoot®. It also has certain specified electrical properties required by the electronics industry. Each Barefoot® module is tested six times before it is certified, packaged and sealed.

Electrical Specifications
Surface to ground: 1 x 10 to the 4th to 1 x 10 6th ohms
Surface to surface: 1 x 10 to the 4th to 1 x 10 6th ohms

Test Method:
Hewlett-Packard, Appendix M, HP Conducive Floor Specifications, Evaluation Test, Issued 5/31/95.
Also meets EOS/ESD-S4.1, Feb.1991
Stock Sizes: 2' x 3', 3' x 4'
Custom Sizes: Any width up to eight feet.
Any length up to sixty feet



Physical and Material Specifications

Specific gravity ASTM 297: 1.18
Tear Resistance: ASTM D-624: 150 psi, min
Tensile Strength ASTM D-412: 1300 psi, min
Elongation at break ASTM D-412 500% min
Shore A hardness ASTM D-2240 45-55
Compression set ASTM D-395: 15%
Flame resistance: Exceeds FMVSS-302
Weight: 1.3 lbs per square foot
Height: 15.5 mm

Click below to read how Barefoot mat is proven **Ergonomic** industrial mat.

Barefoot in an **Ergonomic** Nutshell

Read the Nutshell

Click below to find out why Barefoot mat is the **Safest** industrial mat.

Perfect **Safety** Record

Watch Test Videos

Most rubber mats sold in the US are imported. Barefoot is made in OHIO, USA.
Most rubber mats are filled with clay and or sand. Barefoot is 100% free of fillers.

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DUPONT™ CORIAN® PERFORMANCE PROPERTIES

PHYSICAL PROPERTIES

Property	Test	Typical Result
Density	ASTM D792	1.7 g/cm³
Approximate weight per square foot 6 mm (¼")		2.2 lbs.
Approximate weight per square foot 12 mm (½")		4.4 lbs.
Thermal Expansion	ASTM E228	3.9 x 10^{-5} m/m °C (2.2 x 10^{-5} in./in.°F)
Hardness - Rockwell "M" Scale	ASTM D785	>85
Hardness - Barcol Impressor	ISO 19712-2 (ASTM D2583)	56

MECHANICAL PROPERTIES

Property	Test	Typical Result
Flexural Modulus	ASTM D790	1.2 x 10^6 psi
Flexural Strength		10,000 psi
Tensile Modulus	ASTM D638	1.5 x 10^6 psi
Tensile Strength		6,000 psi
Tensile Elongation		0.4 % min.
Compressive strength	ASTM C365	16,000 psi

FITNESS FOR USE

Property	Test	Typical Result
Light Resistance (Xenon Arc)	ISO 19712-2	Pass
Weatherability	ASTM G155	ΔE^*_{94}<5 in 1,000 hrs.
Ball Impact Resistance: Sheets No fracture—½ lb. ball - 6mm	NEMA LD 3-3.8	36 in. (No failure at height)
Ball Impact Resistance: Sheets No fracture—½ lb. ball - 12mm		144 in. (No failure at height)
Wear and Cleanability	CSA B45.5-11/ IAPMO Z124-2011	Pass
Stain Resistance		Pass
Stain/chemical-resistance test	ISO 19712-2	Pass
Resistance to cigarette burns		Pass
Resistance to dry heat		Pass
Resistance to wet heat		Pass
Hot/cold cycle water-resistance test		Pass
Load test		Pass
Dimensional stability	ISO 4586-2	Pass
Resistance to surface wear		0.18 % wt/25 revolutions
Fungal Resistance	ASTM G21	ASTM Rating of 0, No observed growth on product at 100x power
Bacterial Resistance	ASTM G22	No observed growth on product at 100x power
Microbial Resistance	UL 2824 (ASTM D6329)	Highly resistant to mold growth
Coefficient of Friction (Slip Resistance)	ASTM C1028	0.94 - 0.95 (matte finish under dry conditions) 0.50 - 0.64 (matte finish under wet conditions)

continued on next page

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The miracles of science

DUPONT™ CORIAN® PERFORMANCE PROPERTIES

FITNESS FOR USE (continued)

Property	Test	Typical Result
Boiling Water Resistance	NEMA LD 3-3.5	No visible change
High Temperature Resistance	NEMA LD 3-3.6	No change
Flammability, Surface Burning Characteristics of Building Materials	NFPA 101: Life Safety Code*	Class A
Flame Spread Index Surface Burning Characteristics of Building Materials	ANSI/UL 723 (ASTM E84, NFPA 255)	Flame Spread Index (FSI) <25
Smoke Developed Index Surface Burning Characteristics of Building Materials	ANSI/UL 723 (ASTM E84, NFPA 255)	Smoke Developed Index (SDI) <25
Flame Spread Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials	CAN/ULC-S102.2	Flame Spread Value 0
Smoke Developed. Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials	CAN/ULC-S102.2	Smoke Developed Value 5

Typical results for 12 mm solid colors unless gauge is specified. Properties may vary by aesthetic. These values are not intended for engineering calculations, if precise calculations are required contact DuPont for additional information.

New York City Material Equipment Acceptance (MEA) number is 150-91-M.

Sinks and lavatories meet CSA B45.5-11/IAPMO Z124-2011, ANSI Z124.3 and ANSI Z124.6 standards for plastic sinks and lavatories.

Lavatories are in compliance with HUD Use of Materials Bulletin No. 73a (UM No. 73a) requirements. Sinks and lavatories are in compliance with the International Plumbing Code and the Uniform Plumbing Code for all 50 states of the United States. Sinks and lavatories are in compliance with the National Plumbing Code of Canada.

This information is based on technical data that E.I. du Pont de Nemours and Company and its affiliates ("DuPont") believe to be reliable, and is intended for use by persons having technical skill and [illegible] although every effort is made to ensure that it is kept as current and accurate as possible. Because conditions of use are outside DuPont's control, DuPont makes no representations or warranties, express or implied, with respect to the information, or any part thereof, including any warranties of title, non-infringement of copyright or patent rights of others, merchantability, or fitness or suitability for any purpose and assumes no liability or responsibility for the accuracy, completeness, or usefulness of any information. This information should not be relied upon to create specifications, designs, or installation guidelines The persons responsible for the use and handling of the product are responsible for ensuring the design, fabrication, or installation methods and process present no health or safety hazards. Do not attempt to perform specification, design, fabrication, or installation work without proper training or without the proper personal protection equipment Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents. DuPont shall have no liability for the use of or results obtained from such information, whether or not based on DuPont's negligence. DuPont shall not be liable for (i) any damages, including claims relating to the specification, design, fabrication, installation, or combination of this product with any other product(s), and (ii) special, direct, indirect or consequential damages. DuPont reserves the right to make changes to this information and to this disclaimer DuPont encourages you to review this information and this disclaimer periodically for any updates or changes. Your continued access or use of this information shall be deemed your acceptance of this disclaimer and any changes and the reasonableness of these standards for notice of changes.

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DUPONT™ CORIAN® PRODUCT OVERVIEW

PRODUCT NAME
DuPont™ Corian® Solid Surface

MANUFACTURER
DuPont Building Innovations
Chestnut Run Plaza 735/2175-1
974 Centre Road
PO Box 2915
Wilmington, DE 19805
Toll free 1-800-4-CORIAN (1-800-426-7426)
corian.na.dupont.com

PRODUCT DESCRIPTION

Basic use
DuPont™ Corian® solid surface is an advanced composite product used as an architectural and design material in a variety of residential and commercial applications. Corian® solid surface offers design versatility, functionality and durability. Supplied in sheets and shapes, it can be fabricated with conventional woodworking tools into virtually any design. It is the original solid surface material made only by DuPont. It is widely accepted as a material for countertops, vanity tops, tub/shower walls, kitchen sinks, vanity basins and laboratory bench tops in numerous markets including lodging, healthcare, banks, boutiques, restaurants.

Composition
DuPont™ Corian® solid surface is a solid, nonporous, homogeneous surfacing material, composed of ≈1/3 acrylic resin (also known as polymethyl methacrylate or PMMA), and ≈2/3 natural minerals. These minerals are composed of aluminum trihydrate (ATH) derived from bauxite, an ore from which aluminum is extracted. For more information on the composition of the material, please consult the Corian® solid surface Material Safety Data Sheets (MSDS) available via the msds.dupont.com website or via your local supplier.

STANDARD PRODUCTS

DuPont™ Corian® Sheets
Available in various standard thicknesses, easily cut to size by professional fabricators.

All colors in the standard color palette are available in 1/2" x 30" x 144" (12 x 760 x 3658 mm) sheets. Selected colors may include additional dimensional options: 36.6" (930 mm) width; 72", 98", or 120" (1829 mm, 2490 mm, or 3050 mm) length; 1/4" and 3/4" (6 and 19 mm) thickness. Please consult the DuPont™ Corian® website, *corian.na.dupont.com*, for more details.

DuPont™ Corian® Sinks and Lavatories
A wide range of DuPont™ Corian® sinks and lavatories is available in 5 solid colors for custom integration with Corian® sheets to create a continuous surface. This includes vanity basins in solid colors for bathrooms, and single and double sinks for kitchens, bars and small wash-up areas, hospitals and laboratories. Seamed undermounting eliminates rims that trap dirt and water, minimizing cleaning and maintenance and providing improved hygiene. Care, maintenance and installation instructions are included in the packaging. Appropriate accessory products, including installation hardware, are available and recommended for residential kitchens only.

The Colors of Corian® Solid Surface
A broad palette of colors allows for an almost unlimited working palette. You can choose a single color; a neutral basis for design; or experiment with eye-catching harmonies. DuPont™ Corian® solid surface can also be used as inlays, accents, or as a versatile complement to other materials like metal, wood, stone, etc.

For complete information on colors, refer to the latest Corian® colors leaflet or to *corian.na.dupont.com*. Hues, patterns and textures are related by style and character. Dark, heavily pigmented Corian® colors will show scratches, dust and ordinary wear and tear more readily than lighter, textured colors. As a result, these colors are recommended for applications where surface contact is light or for use as inlays and accent colors. However, the DeepColor™ series incorporates an innovative, proprietary technology that delivers greater depth of color and increased durability compared to other dark Corian® colors.

DUPONT™ CORIAN® PRODUCT OVERVIEW

Custom Sheets

DuPont can manufacture Corian® sheets in custom colors, patterns and dimensions, within manufacturing capability limits and based on a minimum order quantity.

Limitations

Although DuPont™ Corian® solid surface can withstand high temperatures, it should be protected against direct heat with hot pads or heat shields.

Use of 1/4" (6 mm) sheets should be restricted to vertical applications or certain furniture applications only. The choice between 1/2" and 3/4" (12 mm and 19 mm) is generally based on performance and cost considerations.

Due to the complex blending of natural minerals and man-made acrylics, slight color variations may be found within a sheet or from sheet to sheet of same color. Therefore, checking for color matching is an essential element of sheet inspection before starting fabrication.

DuPont™ Corian® solid surface is nonporous so spills and stains remain on the surface. However, some chemicals can stain, discolor or damage the surface of Corian® solid surface. These chemicals include strong acids (like concentrated sulfuric acid), ketones (like acetone), chlorinated solvents (like chloroform) or strong solvent combinations (like paint remover). The extent of the damage will depend on the length of contact. Except for strong solvents such as paint remover, short periods of contact will not usually cause severe damage to Corian® solid surface. Acid drain cleaners should not be used as they can damage both Corian® solid surface and any plastic plumbing beneath. Corian® solid surface is not recommended for use in photographic processing laboratories. More information can be found in *DuPont™ Corian® Chemical Resistance* (K-27406). In some hospitals and laboratories where strong disinfectants come in contact with DuPont™ Corian® applications, the recommendation is to use solid colors and avoid extended contact.

PERFORMANCE PROPERTIES AND CHARACTERISTICS

Since its introduction in 1967, DuPont™ Corian® solid surface has proven itself to be remarkably durable, versatile and easy to live with in both the home and commercial environments.

Typical performance properties of DuPont™ Corian® products are shown in *DuPont™ Corian® Performance Properties* (K-26829). The performance of Corian® sheets may vary according to the thickness of the material, its aesthetics and surface finish.

Colors and patterns run through the entire thickness of the material and cannot wear away or delaminate. Joints can be glued inconspicuously, making virtually unlimited surfaces possible.

Corian® surfaces are restorable, meaning they can be fully restored with ordinary mild abrasive cleansers and a scouring pad. Cigarette burns, for example, can be easily removed in this way. Damage caused by abuse can usually be repaired on site without having to completely replace the material.

Corian® solid surface is nonporous with a smooth, seamless appearance. With proper cleaning, the material does not promote the growth of mold, mildew and bacteria.

Corian® solid surface is nontoxic and nonallergenic to humans. Corian® solid surface meets or exceeds emissions guidelines for volatile organic compounds (VOCs), hazardous air pollutants (HAPs) and has achieved GREENGUARD GOLD Certification.

When burned, it releases mainly carbon oxides and the smoke generated is optically light and does not contain toxic halogenated gases. Because of these properties, Corian® solid surface is used in public spaces and delicate applications such as airport check-in counters, wall and work surfaces in hospitals and hotels.

DuPont™ Corian® sheets can be thermoformed in wooden or metal molds at controlled temperatures in order to create various 2D and 3D design objects. Embossing effects can also be created.

The translucency of DuPont™ Corian® sheet is especially striking in the lighter colors as well as in thinner sheets. As a result, many designers are using it to create lamps or lighting effects in various applications.

Inlaying DuPont™ Corian® with different materials or with different colors of Corian® is possible and can enhance the inherent beauty of the material. Inlays and logos can also be created on Corian® using dye sublimation or direct printing techniques.

DUPONT™ CORIAN® PRODUCT OVERVIEW

FABRICATION AND INSTALLATION

DuPont trains and certifies fabricators and installers who are provided detailed information regarding proper procedures; the following is a general overview, not a comprehensive guide to proper use.

Seams

To minimize material usage and facilitate installation, a corner block of Corian® should be made square (butt) rather than mitered. The edges to be joined should be straight, smooth and clean. Some seams need to be reinforced (see fabrication manual for details). Joints should only be made with DuPont™ Joint Adhesive. Cutouts should be made with a router equipped with a sharp carbide bit, with a minimum diameter of 3/8" (10 mm). All corners of a cutout must be rounded to 5 mm radius and the edges smoothed, both on top and bottom, all around a cutout. "L" and "U" shaped corners need smooth, 3/16" (5 mm) radius inside corners. For hob cutouts, corners should be reinforced with a Corian® corner block. See fabrication manual for more details.

Some Corian® colors that feature random veins and irregular patterns require special considerations regarding the seams. Please refer to the related technical bulletin for best practices in fabrication of these colors.

Sealants and Adhesives

Corian® solid surface is compatible with many commercially available caulks and sealants. 100% silicone products are recommended. Vertical panels of Corian® may be installed over suitable substrates, including water-resistant gypsum board, marine-grade plywood and ceramic tiles. In case a support is needed, apply perimeter frame or full support direct to Corian® using large beads of flexible adhesive leaving a space with a minimum thickness of 1/16" (1.5 mm).

For making seams in countertops, repairs and custom edges, color-coordinated DuPont™ Joint Adhesive should be used. When used in accordance with manufacturer's instructions, it provides a smooth and inconspicuous joint. DuPont™ Joint Adhesive is available from DuPont or its distributors.

Clearances

The minimum expansion clearance in inches for Corian® solid surface is 2.2×10^{-5} in/in °F x (length of the piece of Corian® solid surface in inches) x (biggest temperature range expected in °F). In mm the minimum expansion clearance is 3.9×10^{-5} mm/mm °C x (length of the piece of Corian® solid surface in mm) x (biggest temperature range expected in °C). Joints to be caulked should be a minimum of 1/16" (1.5 mm) wide to allow satisfactory sealant penetration and expansion.

Precautions

Product dimensions are nominal. If tolerances are critical, review your needs with a Corian® specialist.

AVAILABILITY AND COST

Availability

DuPont™ Corian® sheet, shape, and accessory products are readily available through a worldwide network of Distributors and certified Fabricators/Installers.

Cost

Cost varies with color, thickness, and width as well as custom fabrication and installation details.

WARRANTY

DuPont offers limited *commercial* and *residential* warranties.

MAINTENANCE

Preventing Damage to Corian® Solid Surface

Avoid prolonged exposure to strong chemicals such as acids, bases, and organic solvents. Spills should be cleaned up promptly. Refer to *DuPont™ Corian® Chemical Resistance* (K-27406) for additional details regarding chemical exposures, clean up, and general maintenance. In case of exposure outside the specifications listed in the Class I Reagents section, the 10-year limited product warranty will be void and handled as a case of abuse. While unaffected by minor impacts, Corian® solid surface can be damaged by heavy impacts, especially from pointed objects. It can also be damaged by excessive heat. A local Corian® specialist can help you include appropriate heat management into your designs.

Repairing Corian® Solid Surface

DuPont™ Corian® solid surface provides superior value by being inconspicuously repairable in most cases. Minor cuts, scratches, and stains can be removed by owners using fine sandpaper and Scotch-Brite™ pads. Deeper cuts or impact damage such as cracks may require an authorized Corian® fabricator/installer to make inconspicuous repairs.

DUPONT™ CORIAN® PRODUCT OVERVIEW

ADDITIONAL INFORMATION

For additional information or support _please contact your local distributor_, visit _corian.na.dupont.com_ or call 1-800-4-CORIAN (800-426-7426).

REFERENCED DOCUMENTS

DuPont™ Corian® Performance Properties (K-26829)

DuPont™ Corian® Chemical Resistance (K-27406)

DuPont™ Corian® Commercial (Product Only) 10-Year Limited Warranty For North America

DuPont™ Corian® 10-Year Limited Residential Warranty For North America

Flakeboard

FLAME SPREAD PERFORMANCE OF COMPOSITE WOOD PANELS AND FINISHES

Unless otherwise stated, Flakeboard particleboard or MDF in industrial or laminated[1] forms are not certified for a specific flame spread rating.

Untreated[2] particleboard and MDF have been tested for flame spread by a number of different manufacturers and the results met the **Class III or C** rating. The Department of Housing and Urban Development(HUD) in their Manufactured Home Construction and Safety Standards(Section 3280.203) accepts particleboard 3/8 inch and thicker as having a flame spread rating of 76 to 200 for general use in mobile homes.

The American Wood Council (AWC) of the American Forest and Paper Association (AF&PA) has published information in their "Design for Code Acceptance" series (DCA1) relating to Flame Spread Performance of Wood Products. The document can be found at www.awc.org . Table 1 in that document places particleboard and MDF in the Class III or C rating. Likewise, Table 2 in that document places factory finished products (i.e. printed or with overlays) containing untreated particleboard and MDF substrates in the Class III or C flame spread rating.

Smoke data specific to every product is currently not available; however other manufacturers have found typical values of 100-200 for smoke developed. The AF&PA document states that "a smoke-developed index was measured for some of the wood products listed in Tables 1 and 2". None of the products tested exceeded 450, a limiting value commonly used in building code regulations.

Flakeboard particleboard and MDF treated with fire-retardant[3] (FR) additives are certified by Underwriters Laboratories to have a **Class A or Class I** flame spread rating. In addition, TFM laminated on Flakeboard's fire-rated particleboard or MDF substrates at the St. Stephen, NB or Simsboro, LA laminating facilities are classified by Underwriters Laboratories to have a Class A or Class I flame spread rating.

Randy Cason
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www.flakeboard.com

[1] TFM (thermally fused melamine), decorative overlay or wet coated – i.e./ Rezcote-paint or direct print
[2] Without a fire-retardant additive
[3] Trade names: Duraflake FR, Premier FR, VESTA FR Particleboard, VESTA FR MDF

Material Safety Data Sheet

Flakeboard

Medium-Density Fiberboard

Flakeboard
80 Tiverton Court, Suite 701
Markham, Ontario,
Canada, L3R 0G4

Phone Number: (905) 475-9686
Revision Date: 4/24/2008

1. Product Identification

Product	Sales Location(s)
Medium-Density Fiberboard	**Canadian Regional Center** 80 Tiverton Court, Suite 701 Markham, Ontario, Canada, L3R 0G4 Tel: (905) 475-9686 Fax: (905) 475-3827 **US Eastern Regional Center** 515 River Crossing Drive, Ste. 110 Fort Mill, SC 29715 Tel: (877) 273-7680 Fax: (800) 808-1454 **US Western Regional Center** 2550 NE Old Salem Road, Albany, OR 97321 Tel: (888) 650-6302 Fax: (541) 928-4116

Synonyms: MDF, Fiberboard. This MSDS is applicable for all Flakeboard MDF including specialty products such as Fibrex®, moisture-resistant(MR), fire-rated (FR), and (no added urea-formaldehyde resin) VESTA and VESTA FR.

2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Formaldehyde	50-00-0	<0.1 by weight	OSHA ACGIH	PEL-TWA 0.75 ppm PEL-STEL 2 ppm TLV-Ceiling 0.3 ppm*	

* Based on sensory exposure

3. Hazard Identification

Appearance and Odor: Straw yellow (light brown). No distinctive odor. Fire-rated(FR) moisture-resistant (MR), (no added urea-formaldehyde resin) VESTA and VESTA FR products may have red, green, blue or purple color additives, respectively.

Primary Health Hazards: Wood dust and formaldehyde vapor.

Primary Route(s) of Exposure:

☐ Ingestion:
☒ Skin:
☒ Inhalation:

3. Hazard Identification (cont'd.)

Medical Conditions Generally Aggravated by Exposure: Wood dust or formaldehyde may aggravate pre-existing respiratory conditions or allergies.

Signs and Symptoms of Exposure (Wood Dust):

Acute: Wood dust can cause eye irritation. Certain species of wood dust can elicit allergic contact dermatitis in sensitized individuals. Wood dust may cause respiratory irritation, nasal dryness, coughing, sneezing, wheezing as a result of inhalation.

Chronic: Wood dust, depending on the species, may cause allergic contact dermatitis and respiratory sensitization with prolonged, repetitive contact or exposure to elevated dust levels. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer.

Carcinogenicity Listings (Wood Dust):

- ☒ NTP: Known Human Carcinogen
- ☒ IARC Monographs: Group 1 – Carcinogenic to Humans
- ☐ OSHA Regulated: Not listed

NTP: According to its *Tenth Report on Carcinogens*, NTP states, "Wood dust is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans. An association between wood dust exposure and cancer of the nose has been observed in many case reports, cohort studies, and case-control studies that specifically addressed nasal cancer. Strong and consistent associations with cancer of the nasal cavities and paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure."

IARC - Group 1: Carcinogenic to humans; sufficient evidence of carcinogenicity. This classification is primarily based on studies showing an association between occupational exposure to wood dust and adenocarcinoma of the nasal cavities and paranasal sinuses. IARC did not find sufficient evidence of an association between occupational exposure to wood dust and cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum.

Signs and Symptoms of Exposure (Formaldehyde):

Acute: May cause temporary irritation of skin, eyes, or respiratory system. May cause sensitization in susceptible individuals.

Chronic: Numerous epidemiological studies have failed to demonstrate a relationship between formaldehyde exposure and nasal cancer or pulmonary diseases such as emphysema or lung cancer. Universities Associated for Research and Education in Pathology Inc. (UAREP) concluded that there was no "convincing evidence" that formaldehyde exposure causes cancer in humans. Rats exposed to 14 ppm of formaldehyde for 24 months in the laboratory developed nasal cancer. Exposure of 6 ppm did not result in statistically significant levels. The NCI epidemiology study of 26,000 workers found little evidence linking formaldehyde exposure to cancer. Formaldehyde is classified by OSHA and NTP as a probable or potential carcinogen. IARC has classified formaldehyde as carcinogenic to humans. .

Carcinogenicity Listings (Formaldehyde):

- ☒ NTP: Reasonably Anticipated to be a Human Carcinogen
- ☒ IARC Monographs: Group 1 – Carcinogenic to Humans
- ☒ OSHA Regulated: Formaldehyde Gas

IARC - Group 1: Carcinogenic to humans. A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries.

4. Emergency and First-Aid Procedures

Ingestion: NAP

Eye Contact: Wash material out with clean running water.

Skin Contact: If skin abraded, seek proper first aid or medical treatment.

Skin Absorption: NAP

Inhalation: Remove to fresh air. If irritation or other symptoms persist, consult a physician.

Note to Physician: None

5. Fire and Explosion Data

Flash Point (Method Used): NAP
Flammable Limits: **LFL =** Wood dust: 40 grams per cubic meter of air. **UFL =** NAP
Extinguishing Media: Water spray; carbon dioxide
Autoignition Temperature: 425° – 475°F
Special Firefighting Procedures: Fire fighting procedures for wood products are well known.
Unusual Fire and Explosion Hazards: Medium-density fiberboard is not an explosion hazard. Sawing, sanding, or machining MDF could result in the by-product wood dust. Wood dust may present a strong to severe explosion hazard if a dust cloud contacts an ignition source.
NFPA Rating (Scale 0-4): **Health = 0** **Fire = 1** **Reactivity = 0**

6. Accidental Release Measures

Steps to be Taken In Case Material Is Released or Spilled: Not applicable for product in purchased form. Dust generated from sawing, sanding, drilling or routing this product may be vacuumed or shoveled for recovery or disposal. Wood dust clean-up and disposal activities should be accomplished in a manner to minimize creation of airborne dust.

7. Handling and Storage

Precautions to be Taken In Handling and Storage: Provide adequate ventilation to reduce the possible build-up of formaldehyde vapors.

8. Exposure Control Measures, Personal Protection

Engineering Controls: Due to the explosive potential of wood dust when suspended in air, precautions should be taken during sanding, sawing or machining of wood products to prevent sparks or other ignition sources in ventilation equipment. Use of totally enclosed motors is recommended. Provide local exhaust as necessary to meet OSHA requirements for formaldehyde and wood dust exposure.
Personal Protective Equipment:
RESPIRATORY PROTECTION: Wear NIOSH/MSHA approved respirator when the permissible exposure limits to formaldehyde and/or wood dust may be exceeded.
EYE PROTECTION: Recommend goggles or safety glasses as conditions indicate when sawing, sanding or machining wood products.
SKIN PROTECTION: Protective equipment such as gloves and outer garments may be needed to reduce skin contact.

9. Physical/Chemical Properties

Physical Description: A panel product manufactured from ligno-cellulosic fibers combined with a synthetic resin or other suitable binder.

Boiling Point (@ 760 mm Hg):	NAP
Evaporation Rate (Butyl acetate = 1):	NAP
Freezing Point:	NAP
Melting Point:	NAP
Molecular Formula:	NAP
Molecular Weight:	NAP
Oil/water distribution coefficient:	NAP
Odor threshold:	NAP
pH:	NAP

9. Physical/Chemical Properties (cont'd.)

Solubility in Water (% by weight):	Insoluble
Specific Gravity (H_2O = 1):	<1
Vapor Density (air = 1; 1 atm):	NAP
Vapor Pressure (mm Hg):	NAP
Viscosity:	NAP
% Volatile by Volume [@ 70°F (21°C)]:	0

10. Stability and Reactivity

Stability: ☐ Unstable ☒ Stable

Conditions to Avoid: High relative humidity and high temperature increase the rate of emission of formaldehyde from medium-density fiberboard.

Incompatibility (Materials to Avoid): Strong oxidizing agents, strong acids

Hazardous Decomposition or By-Products: Thermal and/or thermal-oxidative decomposition can produce irritating and toxic fumes and gases, including carbon monoxide, aldehydes and organic acids.

Hazardous Polymerization: ☐ May occur ☒ Will not occur

Sensitivity to Mechanical Impact: NAP

Sensitivity to Static Discharge: NAP

11. Toxicological Information

Wood Dust:

Wood dust (softwood or hardwood): OSHA Hazard Rating = 3.3; moderately toxic with probable oral lethal dose to humans being 0.5-5 g/kg (about 1 pound for a 70 kg or 150 pound person). Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990.

Wood dust – generated from sawing, sanding or machining the product – may cause nasal dryness, irritation, coughing and sinusitis. NTP and IARC classify wood dust as a human carcinogen (IARC Group 1). This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

Formaldehyde:

OSHA Hazard Rating = 3 for local and systemic acute and chronic exposures; highly toxic. Irritation studies: human skin, 150 ug/3 days, intermittent exposure produced mild results; human eye, 1 ppm/6 minutes produced mild results. Toxicity studies: human inhalation TC_{Lo} of 8 ppm reported, but response not specified; human inhalation TC_{Lo} of 17 mg/m^3 for 30 minutes produced eye and pulmonary results; human inhalation TC_{Lo} of 300 ug/m^3 produced nose and central nervous system results; LC_{50} (rat, inhalation) = 1,000 mg/m3, 30 minutes; LC_{50} (mice, inhalation) = 400 mg/m^3, 2 hours.

Exposure to gaseous formaldehyde may cause temporary irritation to the nose and throat as well as lead to respiratory disorders. However, in a thorough review of sensory/respiratory irritation studies of formaldehyde from the standpoint of occupational exposure, an expert panel has observed exposure up to concentrations of 0.3 ppm failed to produce irritation. With regard to respiratory disorders, studies have concluded the threshold for long-term chronic pulmonary effects is between 0.4 and 3 ppm and for chronic obstructive pulmonary disease is 2 ppm. Pre-existing respiratory disorders may be aggravated by exposure.

11. Toxicological Information (cont'd.)

Epidemiology studies of workers exposed to formaldehyde have failed to consistently identify an association between formaldehyde exposure and cancer. In animal studies, rats and mice exposed to high levels of formaldehyde developed nasal cancer while hamsters did not. These exposure levels are far above those levels normally found in the workplace. Formaldehyde is classified by IARC as carcinogenic to humans (Group 1). A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries. NTP included formaldehyde in the annual report on carcinogens. OSHA regulates formaldehyde as a potential carcinogen for exposures exceeding 0.5 ppm.

Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990; Registry of Toxic Effects of Chemical Substances (RTECS), National Institute for Occupational Safety and Health (provided by Canadian Centre for Occupational Health and Safety, CCINFO May 1995).

12. Ecological Information

No information available at this time.

13. Disposal Considerations

Waste Disposal Method: Incinerate or landfill in accordance with local, state, and federal regulations. This product is not considered hazardous waste under federal hazardous waste regulations 40 CFR 261. Please be advised, however, state and local requirements for waste disposal may be different than federal regulations. Dry land disposal is acceptable in most states if disposed of or discarded in its purchased form. It is, however, the user's responsibility to determine at the time of disposal whether the product meets EPA RCRA criteria for hazardous waste.

14. Transport Information

Not regulated as a hazardous material by the U.S. Department of Transportation.

15. Regulatory Information

TSCA: This product complies with TSCA inventory requirements.
CERCLA: NAP
DSL: NAP
OSHA: Wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, formaldehyde emissions from this product and wood dust generated by sawing, sanding or machining this product may be hazardous.
STATE RIGHT-TO-KNOW:
Minnesota: Minnesota Statutes, 1984, Section 144.495 and 325F.181 require that all particleboard and medium-density fiberboard used in newly constructed housing units or sold to the public as building materials in Minnesota meet the HUD Formaldehyde Emission Standard for Particleboard, 24 CFR Sections 3280.308 and 3280.406. Furniture and furnishings not normally permanently affixed to a housing unit are not considered "building materials" and are excluded.
New Jersey: Under certain conditions, this product may release free formaldehyde vapor at concentrations at or above 0.1 parts per million (ppm) but less than 0.5 ppm. Formaldehyde is a substance which appears on New Jersey's *Environmental Hazardous Substance List*.

15. Regulatory Information (cont'd.)

Pennsylvania: Under certain conditions, this product may release free formaldehyde vapor at concentrations at or above 0.1 parts per million (ppm) but less than 0.5 ppm. Wood dust may be generated by sawing, sanding or machining this product. Formaldehyde and wood dust are substances which appear on Pennsylvania's *Appendix A – Hazardous Substance Lists*.

California: California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Initiative Measure, Proposition 65): Title 22 California Code of Regulations requires that a clear and reasonable warning be given before exposure to chemicals listed by the State as causing cancer or reproductive toxicity. Formaldehyde is on California's list of chemicals known to the State to cause cancer.

SARA 313 Information: None
SARA 311/312 Hazard Category: NAP
FDA: NAP
WHMIS Classification: This product is not considered a controlled product.

16. Additional Information

Date Prepared: 9/20/87
Date Revised: 9/08/2006
Prepared By: Flakeboard America Limited
Flakeboard MSDS available on: www.flakeboard.com
User's Responsibility: The information contained in this Material Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to make sure that this sheet is the most up-to-date issue.

Definition of Common Terms:

ACGIH	=	American Conference of Governmental Industrial Hygienists
C	=	Ceiling Limit
CAS#	=	Chemical Abstracts System Number
DOT	=	U. S. Department of Transportation
DSL	=	Domestic Substance List
EC50	=	Effective concentration that inhibits the endpoint to 50% of control population
EPA	=	U.S. Environmental Protection Agency
IARC	=	International Agency for Research on Cancer
IATA	=	International Air Transport Association
IMDG	=	International Maritime Dangerous Goods
LCLo	=	Lowest concentration in air resulting in death
LC50	=	Concentration in air resulting in death to 50% of experimental animals
LDLo	=	Lowest dose resulting in death
LD50	=	Administered dose resulting in death to 50% of experimental animals
LEL	=	Lower Explosive Limit
LFL	=	Lower Flammable Limit
MSHA	=	Mining Safety and Health Administration
NAP	=	Not Applicable
NAV	=	Not Available
NIOSH	=	National Institute for Occupational Safety and Health
NPRI	=	Canadian National Pollution Release Inventory
NTP	=	National Toxicology Program
OSHA	=	Occupational Safety and Health Administration

16. Additional Information (cont'd.)

PEL	=	Permissible Exposure Limit
RCRA	=	Resource Conservation and Recovery Act
STEL	=	Short-Term Exposure Limit (15 minutes)
TCLo	=	Lowest concentration in air resulting in a toxic effect
TDG	=	Canadian Transportation of Dangerous Goods
TDLo	=	Lowest dose resulting in a toxic effect
TLV	=	Threshold Limit Value
TSCA	=	Toxic Substance Control Act
TWA	=	Time-Weighted Average (8 hours)
UFL	=	Upper Flammable Limit
WHMIS	=	Workplace Hazardous Materials Information System

FLAKEBOARD
80 Tiverton Court, Suite 701
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Phone: (905) 475-9686
www.flakeboard.com

NEVAMAR™ DECORATIVE SURFACES

HIGH PRESSURE LAMINATE
PHYSICAL PROPERTIES CHART

	HGS (H-5) GENERAL PURPOSE GRADE		HGL (H-4) HORIZONTAL GRADE		HGP (HF-4) HORIZONTAL FORMING GRADE		VGP (VF-3) VERTICAL FORMING GRADE	
	Typical Nevamar Values	NEMA Requirements	Typical Nevamar Values	NEMA Requirements	Typical Nevamar Values	NEMA Requirements	Typical Nevamar Values	NEMA Requirements
WEAR RESISTANCE (cycles) NEMA LD3.3.13	1000 cycles	400 min.	1000 cycles	400 min.	1000 cycles	400 min.	1000 cycles	400 min.
DART IMPACT RESISTANCE NEMA LD3.3.9	700 MM	500 MM	500 MM	300 MM	550 MM	300 MM	450 MM	200 MM
BALL IMPACT RESISTANCE (inches drop) NEMA LD3.3.8	66	50	44	35	48	30	40	20
DIMENSIONAL CHANGE % MD, Max. % CD, Max. NEMA LD3.3.11	0.35% 0.75%	0.5% 0.9%	0.35% 0.70%	0.6% 1.0%	0.35% 0.75%	1.1% 1.4%	0.35% 0.75%	1.1% 1.4%
RESISTANCE TO BOILING WATER NEMA LD3.3.5	No Effect	No Effect	No Effect	No Effect	Slight Effect	Slight Effect	Slight Effect	Slight Effect
RESISTANCE TO HIGH TEMPERATURE NEMA LD3.3.6	No Effect	Slight Effect	No Effect	Slight Effect	No Effect	Slight Effect	No Effect	Slight Effect
RADIANT HEAT RESISTANCE NEMA LD3.3.10	300 sec.	125 sec. Min.	300 sec.	100 sec. Min	275 sec.	100 sec. Min	250 sec.	80 sec. Min
ROOM TEMPERATURE DIMENSIONAL STABILITY % MD, Max. % CD, Max. NEMA LD3.3.12	0.3% 0.5%	0.5% 0.8%	0.25% 0.45%	0.6% 1.0%	0.40% 0.19%	1.0% 1.3%	0.3% 0.6%	1.0% 1.3%
STAIN RESISTANCE NEMA LD3.3.4	Unaffected by reagents 1-15	Unaffected by reagents 1-10 moderate 11-15	Unaffected by reagents 1-15	Unaffected by reagents 1-10 moderate 11-15	Unaffected by reagents 1-15	Unaffected by reagents 1-10 moderate 11-15	Unaffected by reagents 1-15	Unaffected by reagents 1-10 moderate 11-15
LIGHT RESISTANCE NEMA LD3.3.1	No Effect	Slight Effect	No Effect	Slight Effect	No Effect	Slight Effect	No Effect	Slight Effect
CLEANABILITY NEMA LD3.3.4	7-11	20	7-10	20	7-10	20	7-10	20
FORMABILITY NEMA LD3.3.14					3/8'	5/8" Radius	1/4"	1/2"
BLISTER RESISTANCE NEMA LD3.3.15					60 sec.	55 sec.	52 sec.	40 sec.

MATERIAL SAFETY DATA SHEET

("Essentially Similar" to Form OSH-20)

1. Material Description

Stylmark Inc
6536 Main St Ne
Minneapolis, MN 55432
(763) 574-7474

Common Name: Aluminum Alloy

Trade Name: 6xxx Series Alloys

Manufacturers Code Identification: 6063 6061 6463

2. Ingredients

Ingredient	Percent	Gas ppm	TLV Fume mg/m³	TLV Dust mg/m³	CAS Numbers
Aluminum	min. 92.0		5	10	7429-90-5
Si	max 1.8		5	10	7440-21-3
Fe	max 1.0		5		7439-89-6
Mn	max 1.1		1	50	7439-96-5
Mg	max 1.5		10		7439-95-4
Zn	max 1.5		5	10	1314-13-2
Cu	max .4				
Ozone may be emitted as a by-product during welding or plasma arc cutting		0.2			

3. Physical Data

Physical Form: Solid

Boiling Temperature: N/A

Freeze/Melt Temp: 1010 1210

Vapor Pressure: N/A

Vaporation Rate: N/A

Specific Gravity: N/A

Density: N/A

Water Solubility: N/A

pH: N/A

Color: N/A

Odor: N/A

4. Fire and Explosion Data

Flashpoint: N/A

Auto-Ignition Temp: N/A

Flammability Limits in Air: N/A

Lower: N/A Upper: N/A

Estinguishing Media:

This product is non-flammable. For fires involving aluminum fines or chips, use dry sand or Class D extinguishing agents. DO NOT use halogenated extinguishing agents.

Unusual Fire and Explosion Hazards:

Moisture trapped in molten aluminum may cause an explosion. See Section 9.

5. Health Hazard Data

Effects of Overexposure:

High exposure to aluminum dust or fumes may produce irritation of eyes and respiratory system.
Generally, if exposures for aluminum oxide are kept below TLV's, the alloy components should not present any health risks.
Exposure to ozone may produce irritation to eyes, nose and throat. Prolonged exposure may result in nausea, headache and pulmonary edema.

Emergency and First Aid Procedures:

Eyes: Immediately flush eyes with water for at least 15 minutes.

6. Reactivity Data

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to avoid: See Section 9.

Materials to Avoid:

For aluminum fines: Water, mineral acids, harsh alkalis, and halogenated compounds. See NFPA #491M for specific incompatible materials. National Fire Protection Association, Batterymarch Park, Quincy, MA 02269

Hazardous Demompostion Products: None

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled: No special procedure

Waste disposal Method:

For disposal of this material as a waste, act in accordance with all applicable Federal, State and Local waste regulations.

8. Special Protection Information

Respiratory protection: If TLV's exceeded, use NIOSH-approved particulate respirator

Ventilation: Local exhause if TLVs exceeded

Protective Gloves: As needed

Eye Protection: Eye glasses or goggles, as needed

Other Protective Equipment: None

9. Special Precautions

Precautions to be taken in handling and storing: No special instructions

Other Precautions:

If remelted, make certain no water or moisture is present in cavities or on external surfaces.

All Statements, technical information and recommendations contained herein are based on tests and data which this company believes to be currently reliable, but the accuracy or completeness therof is not guarantee and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice

or infringe any patent of this company or others covering any process, composition of matter or use. Since the company shall have no control of the use of the product described herein, the company assumes no liability for loss or damage incurred from the proper or improper use of such product.

TEMPERED GLASS

DEFINITIONS

In the production of flat glass the molten silica-based mix is cooled slowly under carefully controlled conditions. This annealing procedure removes undesirable stresses from the glass. Cooling occurs in an annealing "lehr"; hence, the glass is termed "annealed" or "ordinary" glass. Annealed glass which has been heated to a temperature near its softening point and forced to cool rapidly under carefully controlled conditions is described as "heat-treated glass." The heat treating process produces highly desirable conditions of induced stress which result in additional strength, resistance to thermal stress, and impact resistance.

Heat-treated glasses are classified as either fully tempered or heat strengthened. According to Federal Specification DD-G-1403B, fully tempered glass must have a surface compression of 10,000 psi or more or an edge compression of 9,700 psi or more. Heat-strength glass must have a surface compression between 3,500 and 10,000 psi, or an edge compression between 5,500 and 9,700 psi. The fracture characteristics of heat- strengthened glass vary widely from very much like annealed glass near the 3,500 psi level to similar to fully tempered glass at the 10,000 psi level.

HEAT TREATMENT PRINCIPLE

Glass can fracture when its surfaces or edges are placed into tension. Under these conditions inherent surface or edge fissures may propagate into visible cracks.

The basic principle employed in the heat treating process is to create an initial condition of surface and edge compression. This condition is achieved by first heating the glass, then cooling the surfaces rapidly. This leaves the center glass thickness relatively hot compared to the surfaces. As the center thickness then cools, it forces the surfaces and edges into compression. Wind pressure, missile impact, thermal stresses or other applied loads must first overcome this compression before there is any possibility of fracture.

MANUFACTURING PROCESSES

In the "heat-treatment" process the key procedure is application of a rapid air quench immediately upon withdrawal of hot (approx. 1200° F) glass from the "tempering furnace." The immediate and sustained application of an air quench produces the temper. As air direction against hot glass from arrays of fixed, reciprocation or rotating blast nozzles, it is important to extract heat uniformly from both surfaces (uneven heat extraction may produce bow or warp) and to sustain the quench long enough to prevent reheating of the glass surfaces from the still-hot glass core. A quenched condition becomes stable when the glass is reduced to a temperature of approximately 400-600° F.

There are two principal manufacturing methods for producing heat-treated glass. One process heat treats the glass in a horizontal position while the second method moves the glass through the furnace in a vertical position with each light of glass held by metal tongs.

STRENGTH

Under wind pressure, tempered glass is approximately four times as strong as annealed glass. It resists breakage by small missiles traveling approximately twice as fast as missiles which break annealed glass. Tempered glass is also able to resist temperature differences (200° F - 300° F) which would cause annealed glass to crack.

	Annealed Glass	Tempered Glass
Typical Breaking Stress (large light 60 sec. load)	6,000 psi	24,000 psi
Typical Impact Velocity Causing Fracture (1/4" light 5 gm missile, impact normal to surface)	30 ft/sec	60 ft/sec

SAFETY

Fully tempered glass is used in many applications because of its safety characteristics. Safety comes from strength and from unique fracture pattern. Strength, which effectively resists wind pressure and impact, provides safety in many applications. When fully tempered glass breaks the glass fractures into small, relatively harmless fragments. This phenomenon called "dicing," markedly reduces the likelihood of injury to people as there are no jagged edges or sharp shards.

Fully tempered glass is a safety glazing material which manufactured to meet the requirements of the ANSI Z97.1 Standard and Federal Standard CPSC 16 CFR 1201. Federal Standard CPSC 16 CFR 1201,

as well as state and local codes, require safety glazing material where the glazing might reasonably be exposed to human impact. This includes doors, tub and shower enclosures, side lights, and certain windows. Applicable building codes should be checked for specific information and requirements.

USES FOR TEMPERED GLASS

Fully tempered glass is used traditionally in place of other glass products in applications requiring increased strength and reduced likelihood of injury in the event of breakage. The building industry, motor vehicle industry and certain manufacturing industries find tempered glass is effective and economical in a wide range of applications.

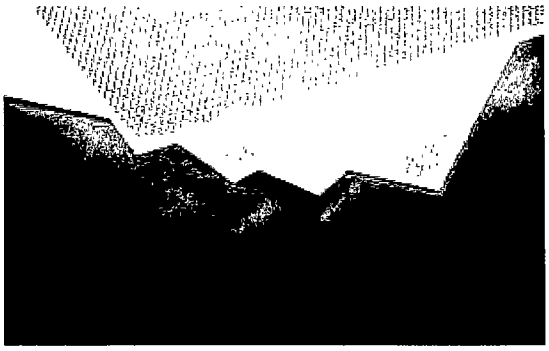
Fully tempered glass can satisfy federal, state and local building code requirements for safety glazing in such applications as doors, side lights, shower and tub enclosure, and interior partitions. It is also used in storm doors, patio-door assemblies, and escalator and stairway balustrades. As a glazing product it is used in windows and in spandrel areas (for wind pressure, small missile impact and thermal stress resistance). Special building applications include sloped glazing, racquetball courts, skylights (see below), and solar panels. Any conditions or requirements imposed in the applicable safety glazing laws and building codes limiting such special uses should be determined prior to glazing.

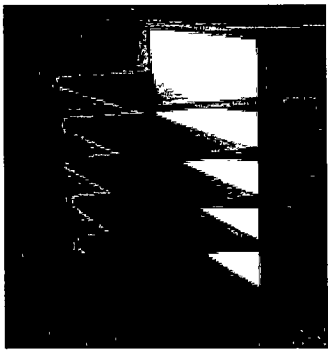
The domestic motor vehicle industry employs tempered glass as side and rear windows in automobiles, trucks, and multi-purpose vehicles. Manufacturing industries use tempered glass in refrigerators, furniture, ovens, shelving, and fireplace screens.

Tempered glass should not be used where building codes require wired glass for fire-spread resistance. Tempered glass should not be used, alone, where the objective is to provide security against forced entry or bullet passage. Combinations of annealed and tempered glass can be effective barriers against forced entry and bullet impact, if properly designed and constructed. When using tempered glass in fireplace screens, provisions must be made for expansion and edge insulation

Panel-LED

NEW

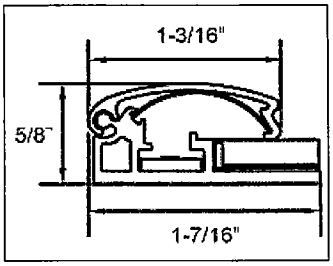




Panel-LED

The new Panel-LED is the perfect way to illuminate pictures and displays using the latest in LED technology. Its ultra-slim design may be ordered with a snap frame, which makes installation and changing the picture extremely easy. These panels are energy efficient using between only 7 W to 40 W depending on the size. The Panel-LED is the only panel on the market engineered to have 70% illumination consistency across the panel, while industry standard is only 60%.

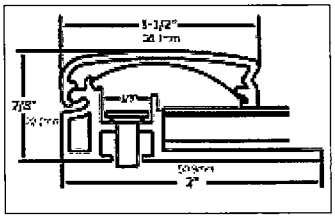
Snap Frame A Profile



Product-Features

- The panel is super slim. Thickness only 1/8" - 5/16"
- Available with or without frame
- Standard frame colors: black or silver with custom colors available
- The snap frame is easy to open, therefore the image is easy to install and change
- Mounts portrait or landscape
- LED light sources are used, energy saving & long lifetime of 50,000 Hrs
- Uniform illumination exceeding industry standards
- Optically refined dot pattern technology optimizes the quality of light
- Standard color temperature of 6500K. Special order of 3500K and 5300K available, as well as custom color temperatures
- Special sizes up to 5' x 10' can be made to meet customer's requirements
- Larger sizes can be achieved with Multi Panel Tiling without a visible seam in the panel output
- LED Driver included
- Applicable for retail design, fixtures and displays, signage and interior design

Snap Frame B Profile



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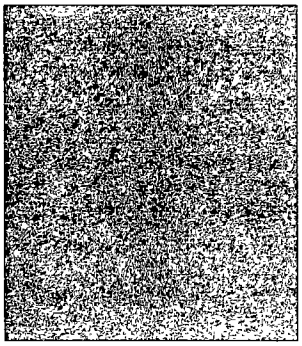
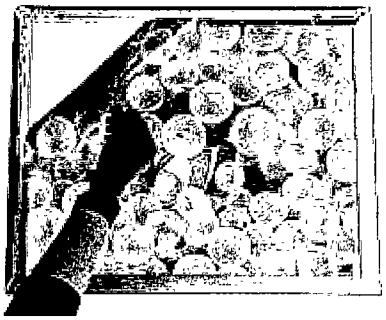
Panel-LED





What You'll Need to Buy:

Standard Sizes - without Frame

Panel Dimension L x W x D	Brightness	Power	Code No.
16" x 20" x 1/4"	2500 Lux	7 W	HLP1620/NF/6500
18" x 24" x 1/4"	2500 Lux	13 W	HLP1824/NF/6500
22" x 28" x 1/4"	2500 Lux	21 W	HLP2228/NF/6500
24" x 24" x 1/4"	2500 Lux	17 W	HLP2424/NF/6500
24" x 36" x 1/4"	2500 Lux	25 W	HLP2436/NF/6500
30" x 30" x 7/16"	2500 Lux	30 W	HLP3030/NF/6500
30" x 40" x 7/16"	2500 Lux	40 W	HLP3040/NF/6500

Standard Sizes - Snap Frame A

Graphic Size	Visual Area	Frame Size L x W x D	Power	Code No. Silver Frame	Code No Black Frame
16" x 20"	15" x 19"	17 1/2" x 21 1/2" x 5/8"	7 W	HLP1620/SF/6500/A	HLP1620/BF/6500/A
18" x 24"	17" x 23"	19 1/2" x 25 1/2" x 5/8"	13 W	HLP1824/SF/6500/A	HLP1824/BF/6500/A
22" x 28"	21" x 27"	23 1/2" x 29 1/2" x 5/8"	21 W	HLP2228/SF/6500/A	HLP2228/BF/6500/A
24" x 24"	23" x 23"	25 1/2" x 25 1/2" x 5/8"	17 W	HLP2424/SF/6500/A	HLP2424/BF/6500/A
24" x 36"	23" x 35"	25 1/2" x 37 1/2" x 5/8"	25 W	HLP2436/SF/6500/A	HLP2436/BF/6500/A
30" x 40"	29" x 39"	31 1/2" x 41 1/2" x 5/8"	28 W	HLP3040/SF/6500/A	HLP3040/BF/6500/A

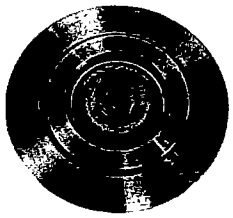
Standard Sizes - Snap Frame B

Graphic Size	Visual Area	Frame Size L x W x D	Power	Code No. Silver Frame	Code No. Black Frame
36" x 48"	34 1/2" x 46 1/2"	37 1/2" x 49 1/2" x 7/8"	78 W	HLP3648/SF/6500/B	HLP3648/BF/6500/B
48" x 72"	46 1/2" x 70 1/2"	49 1/2" x 73 1/2" x 7/8"	117 W	HLP4872/SF/6500/B	HLP4872/BF/6500/B
48" x 96"	46 1/2" x 94 1/2"	49 1/2" x 97 1/2" x 7/8"	156 W	HLP4896/SF/6500/B	HLP4896/BF/6500/B

PK811LED

COVE / CABINET / SHOWCASE / DISPLAY
LED SLIM DISK SERIES

Type	
Project	
Catalog No.	



FEATURES

- COB LED provides a single source of light
- Low profile
- 20 deg adjustment.
- Gimbal ring for precise adjustments

DESCRIPTION

The PK811 is an LED recessed puck light for showcase and display applications. This low profile fixture features a high output COB LED and the center eye allows for 20 degrees of adjustability along a single plane. The fixture trim features a silver finish.

SPECIFICATIONS

Input Current / Voltage	350mA , 700mA / 11V DC
LED	COB
CRI	80+
Lamp Life	50,000 hours
Operating Temp †	-4°F to 113°F
Housing	Cast Aluminum
Mounting	Recessed
Environment	Indoor-Dry
Certifications	c-UL-us
Warranty	5 Years – see published warranty terms for detailed information.

† Exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, and/or adversely impact color consistency. It is recommended adequate airflow and heat sinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure and void the warranty.

LUMEN DATA

Part Number	Watts (Typ)	Color Temp	Lumens	Efficacy (lm/W)
PK811LED-R-4	4	3000K	412	103
		4000K	434	109
		5000K	473	118
PK811LED-R-8*	8	3000K	720	90
		4000K	800	100
		5000K	820	103

DIMENSIONS

Part Number	Dimensions	Trim	Cut-Out
PK811LED-R-4	3"Ø x 1-1/2"H	1/16"H	2-9/16"Ø
PK811LED-R-8	3"Ø x 2-3/16"H	1/16"H	2-9/16"Ø

ORDERING INSTRUCTIONS

MODEL	–	INPUT / OUTPUT	–	BEAM ANGLE	–	COLOR TEMP□	–	FINISH
PK811LED-R	–		–		–		–	
		4: 350mA, 4W **8**: 700mA, 8W		**20**: 20° **30**: 30° **45**: 45°		**30**: 3000K **40**: 4000K **50**: 5000K		**SV**: Silver **BK**: Black **PS**: Polished Silver (medium)* **BR**: Brass * **BZ**: Bronze * **WH**: White *

□ Custom option. Consult factory.
Example : PK811LED-R-4-45-30-SV

JESCO LIGHTING GROUP
www.jescolighting.com
support@jescolighting.com
Tech Support: 855.652.0029
15 Harbor Park Drive
Port Washington, NY 11050
Main Line: 800.527.7796
Fax Line: 855.265.5768
219 South 6th Ave
City of Industry, CA 91746
Main Line: 855.654.0110
Fax Line: 626.333.2955

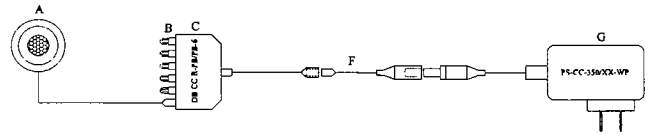
PK811LED

COVE / CABINET / SHOWCASE / DISPLAY
LED SLIM DISK SERIES

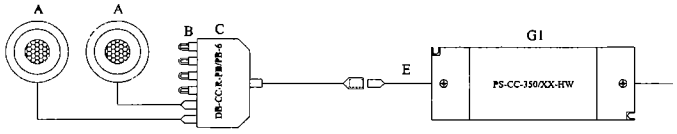
Type	
Project	
Catalog No.	

WIRING DIAGRAM – For reference purposes only. Not for installation. Not to scale.

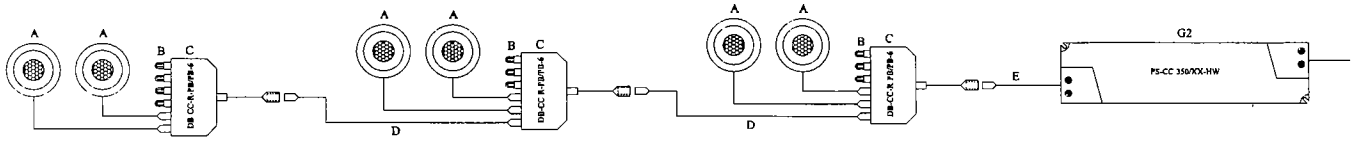
4W Plug and Play (1 or 2 fixtures)



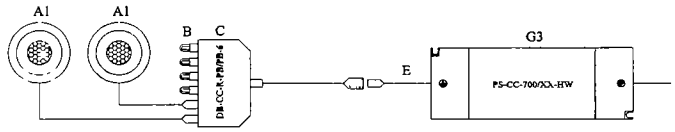
4W Hard-wire (1 or 2 fixtures)



4W Hard-wire (6 to 10 fixtures)



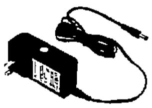
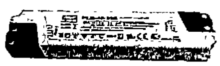
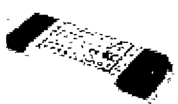
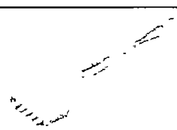
8W Hard-wire (1 to 3 fixtures)



Max wiring distance between power supply and fixture is 20 feet.

A	PK811LED-R-4
A1	PK811LED-R-8
B	DB-CC-PB-JP (Jumper)
C	DB-CC-R-PB/PB-6 (Distribution block with 5 jumpers included)
D	PS-CC-R-PBF-PBF-36
E	PS-CC-R-PB/HW-36
F	PS-CC-R-DC/PBF-3
G	PS-CC-350/8-WP (Max. # fixtures = 1) PS-CC-350/12-WP (Max. # fixtures = 2)
G1	PS-CC-350/12-HW (Max. # fixtures = 2)
G2	PS-CC-350/36-HW (# fixtures = 5 to 10)
G3	PS-CC-700/12-HW (Max. # fixtures = 1) PS-CC-700/20-HW (Max. # fixtures = 2) PS-CC-700/30-HW (Max. # fixtures = 3)

POWER SUPPLIES & ACCESSORIES

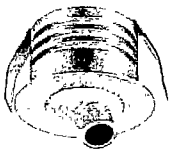
	Part Number	Description
	PS-CC-350/8-WP	350mA Constant Current 8 Watt wall plug power supply. 3-36V DC 7-3/4" 20 AWG wire length Operating temperature : 14• to 104• F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-WP	350mA Constant Current 12 Watt wall plug power supply. 3-36V DC, 3W min load 30" 20 AWG wire length Operating temperature : 14• to 104• F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-HW	Input Voltage: 100 – 240 VAC Output Current: 350mA Constant Current Output Voltage: 3 ~ 36V DC Max. Output Wattage: 12W Operating temperature : -4• F to +122• F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 4 7/8"L x 1 3/4"W x ¾"H
	PS-CC-350/36-HW	Input Voltage: 100 – 277 VAC Output Current: 350mA Constant Current Output Voltage: 53 ~ 105V DC Max. Output Wattage: 36W Max. Operating temperature : 104• F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 6 7/8"L x 1 3/4"W x 1"H
	PS-CC-700/12-HW	Input Voltage: 100 – 240 VAC Output Current: 700mA Constant Current Output Voltage: 3 ~ 17V DC Max. Output Wattage: 12W Operating temperature : -4• F to +122• F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 5 ¼"L x 1 7/8"W x ¾"H
	PS-CC-700/20-HW	Input Voltage: 100 – 240 VAC Output Current: 700mA Constant Current Output Voltage: 6 ~ 29V DC Max. Output Wattage: 20W Operating temperature : -4• F to +122• F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 5 ¾"L, x 2"W x 7/8"H
	PS-CC-700/30-HW	Input Voltage: 100 – 240 VAC Output Current: 700mA Constant Current Output Voltage: 10 ~ 43V DC Max. Output Wattage: 30W Operating temperature : -4• F to +122• F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 6 1/4"L, x 2"W x 7/8"H
	DB-CC-R-PB/PB-6	6 Port distribution block with PB input and output connector. (Includes 5 jumpers)
	DB-CC-PB-JP	Jumper for plug type B Must be plugged into unused slots of the distribution block to complete the circuit (5 pieces are included with DB-CC-R-PB/PB-6)

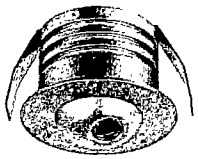
	Part Number	Description
	PS-CC-R-DC/PBF-3	36" extension cable with PB connectors.
	PS-CC-R-EXT-PB-36	36" extension cable with PB connectors
	PS-CC-R-PB/HW-36	PS output cable HW to PB 36"
	PS-CC-R-PBF-PBF-36	36" Connecting cable with 2 PB Terminals
	DL-PS-EXT48 DL-PS-EXT96	48" LED Driver Extension Cable 96" LED Driver Extension Cable

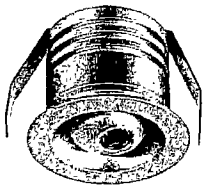
SD1xxCC-R

SHOWCASE LIGHTING
RADIANZ MICRO DOWNLIGHT

Type	
Project	
Catalog No.	


SD110CC-R


SD111CC-R


SD112CC-R


SD120CC-R

DESCRIPTION

The SD1XXCC-R series is a set of high-output LED fixtures for mounting inside display cabinets, counters or shelves. The fixtures are recessed-mounted using spring clips, eliminating the need for any tools. Fixtures are customizable with different finishes, beam angles, and CCTs. The SD11Xcc-R features an adjustable head with three different profiles – SD110 (snoot), SD111 (ball) and SD112 (recessed ball). The SD120 (mini snoot) is a modified version of the SD110 with a smaller rear profile. All the fixtures include a 57" 24AWG lead wire exiting the unit with a type B plug at the end.

SPECIFICATIONS

Beam Angle	35°, 45°
Input Current / Voltage	350mA / 3V DC
Lamp Life	50,000 hours
Cut Out	1-1/4"Ø
Housing	Cast aluminum
Finish	Silver, Black, Polished Silver, Brass, Bronze, White
Mounting	Recessed
Operating Temperature *	-31°F – +122°F
Environment	Indoor-Dry
Certifications	c-UL-us
Warranty	5 Years – see published warranty terms for detailed information.

* Exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, adversely impact color consistency, and void the warranty. It is recommended adequate airflow and heatsinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure.

LUMEN DATA

Color Temp	Watts (Max)	Lumens	Efficacy (lm/W)
3000K	1.2	100	83
4000K	1.2	120	100
5000K	1.2	125	104

ORDERING INSTRUCTIONS

MODEL	–	BEAM ANGLE	–	COLOR TEMP	–	FINISH
	–		–		–	
SD110CC-R		**35**: 35°		**40** : 4000K		**SV** : Silver
SD111CC-R		**45**: 45°		**30** : 3000K		**BK** : Black
SD112CC-R				**50** : 5000K		**PS** : Polished Silver (medium)*
SD120CC-R*						**BR** : Brass *
						BZ : Bronze *
						WH : White *

Example: SD110CC-R 35 30 SV

* Custom options. Consult factory for availability and pricing. Minimum order quantites may apply.
All finishes are flat except for polished silver.

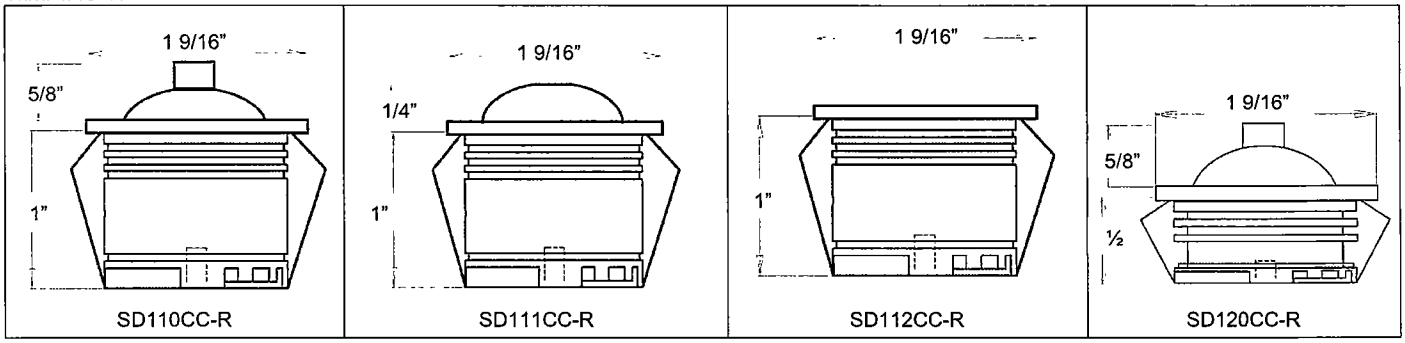
SD1xxCC-R

SHOWCASE LIGHTING
RADIANZ MICRO DOWNLIGHT

Type	
Project	
Catalog No.	

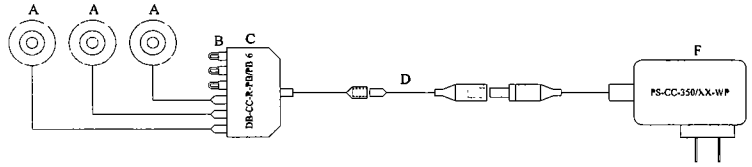
DIMENSIONS

Trim: 1/16" H

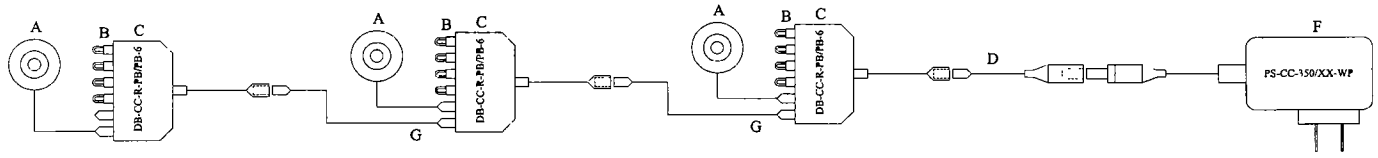


WIRING DIAGRAM – For reference purposes only. Not for installation. Not to scale.

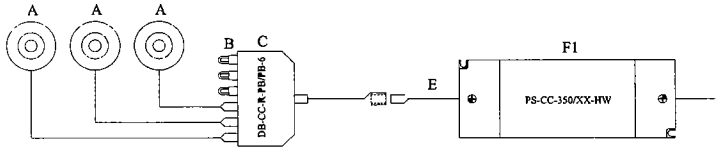
Plug and Play wiring



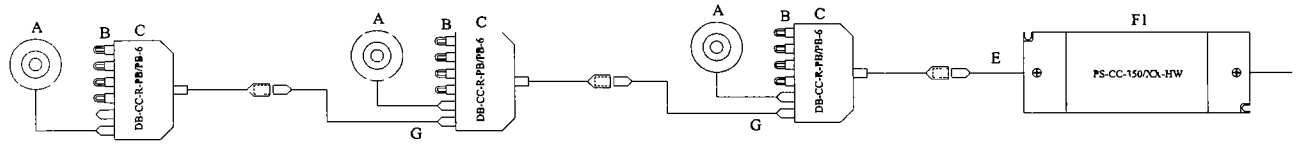
Alternate Plug and Play wiring



Hard-wire



Alternate Hard-wiring



Max wiring distance between power supply and fixture is 20 feet.

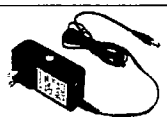
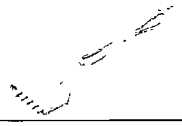
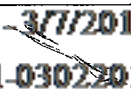
SD1xxCC-R

SHOWCASE LIGHTING
RADIANZ MICRO DOWNLIGHT

Type	
Project	
Catalog No.	

A	SD1xxCC-R
B	DB-CC-PB-JP (Jumper)
C	DB-CC-R-PB/PB-6 (5 jumpers included)
D	PS-CC-R-DC/PBF-3
E	PS-CC-R-PB/HW-36
F	PS-CC-350/8-WP (Min. # fixtures = 1, Max. # fixtures = 5) PS-CC-350/12-WP (Min. # fixtures = 4, Max. # fixtures = 6)
F1	PS-CC-350/12-HW (Min. # fixtures = 4, Max. # fixtures = 6)
G	PS-CC-R-PBF-PBF-36

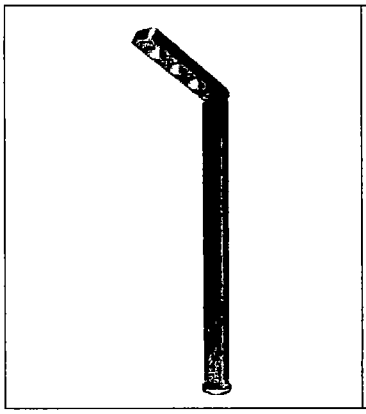
POWER SUPPLIES & COMPONENTS

	Part Number	Description
	PS-CC-350/8-WP	350mA Constant Current 8 Watt wall plug power supply. 3-36V DC 72" 20 AWG wire length Operating temperature : 14 to 104 deg F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-WP	350mA Constant Current 12 Watt wall plug power supply. 3-36V DC, 3W min load 30" 20 AWG wire length Operating temperature : 14 to 104 deg F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-HW	Input Voltage: 100 – 240 VAC Output Current: 350mA Constant Current Output Voltage: 3 ~ 36V DC Max. Output Wattage: 12W Operating temperature : -4° F to +122° F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 4 7/8"L x 1 3/4"W x ¾"H
	DB-CC-R-PB/PB-6	6 Port distribution block with PB input and output connector. Includes 5 jumpers
	PS-CC-R-DC/PBF-3	3" Adapter cable. DC to PB connector.
	PS-CC-R-EXT-PB-36	36" extension cable with PB connectors. Extends run between the fixture and distribution block.
	DB-CC-PB-JP	Jumper for plug type B Must be plugged into unused slots of the distribution block to complete the circuit 5 pieces are included with DB-CC-R-PB/PB-6
	DL-PS-EXT48 DL-PS-EXT96	48" LED Driver Extension Cable 96" LED Driver Extension Cable
	PS-CC-R-PB/HW-36	PS output cable HW to PB 36"
	PS-CC-R-PBF-PBF-36	36" Connecting cable with 2 PB Terminals

SD107CC-R

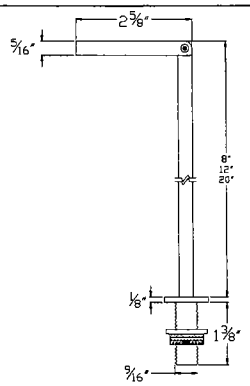
SHOWCASE & DISPLAY
RADIANZ VERTICAL SERIES

Type	
Project	
Catalog No.	



Head Detail

Mounting Detail



Dimensions

DESCRIPTION

The SD107CC-R is a high-output LED fixture that features an adjustable head allowing the optimum positioning of light within a 90° vertical head rotation and a 350° fixture rotation. It is available in three standard heights of 8", 12" and 20", but is customizable to virtually any height or finish, and has 24" lead wires exiting the unit.

SPECIFICATIONS

Beam Angle	120°
Input Current / Voltage	350mA / 9V DC
Lamp Life	50,000 hours
Cut Out	1/2"Ø
Housing	Aluminum
Operating Temperature *	-4°F to 95°F
Mounting †	Surface-mounted base
Vertical Rotation	90 deg
Horizontal Rotation	350 deg
Dimensions	Head : 2-5/8" Stem: 8", 12", 20" Base : 1" Ø
Cutout	5/8"Ø Hole
Environment	Indoor-Dry
Certifications	c-UL-us Listed
Warranty	5 Years – see published warranty terms for detailed information.

LUMEN DATA

Color Temp	Watts	Lumens	Efficacy (lm/W)
3000K	3	380	127
4000K +/- 200K	3	418	140
5000K	3	460	153

* Exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, adversely impact color consistency, and void the warranty. It is recommended adequate airflow and heatsinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure.

† Allow at least 1 inch clearance underneath the mounting surface for mounting the stem. The stem can not be field cut.

ORDERING INSTRUCTIONS

MODEL	–	STEM HEIGHT	–	BEAM ANGLE	–	COLOR TEMP	–	FINISH *
SD107CC-R				120				

08: 8" Nom.
12: 12" Nom.
20: 20" Nom.
XX: Custom*

40: 4000K
30: 3000K *
50: 5000K *

SV: Silver
BK: Black
BZ: Bronze*
WH: White*
PS: Polished Silver (medium) *

Example: SD107CC-R-08-120-40-SV

* Custom height and finishes available. Consult factory for availability. All finishes are matte except for polished silver.

WIRING DIAGRAMS – For reference purposes only. Not for installation. Not to scale.

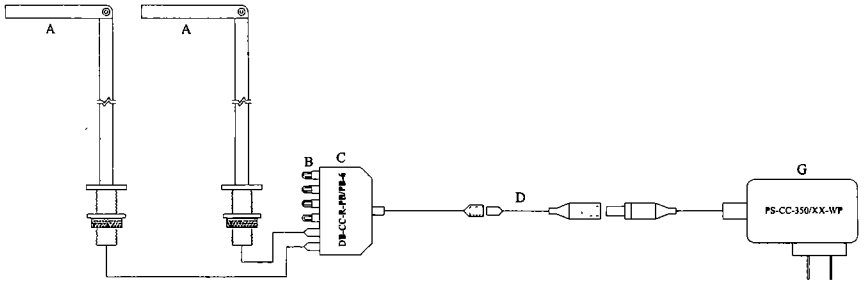
JESCO LIGHTING GROUP
www.jescolighting.com
support@jescolighting.com
Tech Support: 855.592.0029

15 Harbor Park Drive
Port Washington, NY 11050
Main Line: 800.527.7796
Fax Line: 855.265.5768

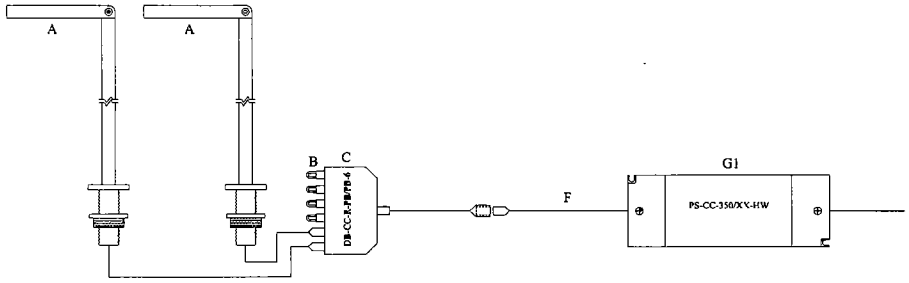
219 South 6th Ave
City of Industry, CA 91746
Main Line: 626.333.3661
Fax Line: 626.333.2955

7/31/2015

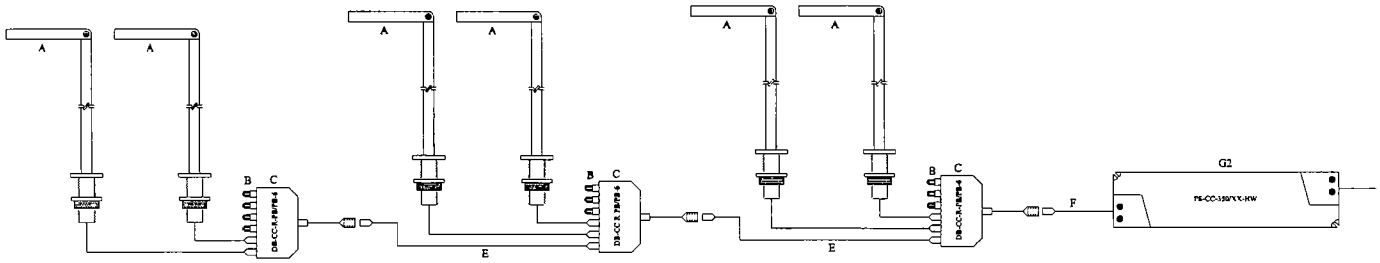
Single or Double Fixture Wiring (Plug and Play):



Double Fixture Wiring (Hard wire):



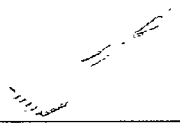
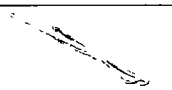
Multiple (6 - 10) Fixture Wiring (Hard wire):



Max wiring distance between Power Supply (PS-CC-350/x-xx) and Fixture (SD107CC-R) is 20 feet.

A	SD107CC-R
B	DB-CC-PB-JP (5 included with DB-CC-R-PB/PB-6)
C	DB-CC-R-PB/PB-6
D	PS-CC-R-DC/PBF-3
E	PS-CC-R-PBF-PBF-36
F	PS-CC-R-PB/HW-36
G	PS-CC-350/8-WP (Max. of 2 fixtures) PS-CC-350/12-WP (Min. of 2 fixtures, Max. of 3 fixtures)
G1	PS-CC-350/12-HW (Min. of 2 fixtures, Max. of 3 fixtures)
G2	PS-CC-350/36-HW (Min. of 6 fixtures, Max. of 10 fixtures)

COMPONENTS

	Part Number	Description
	PS-CC-350/8-WP	350mA Constant Current 8 Watt wall plug power supply. 3-36V DC 72" 20 AWG wire length Operating temperature : 14 to 104 deg F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-WP	350mA Constant Current 12 Watt wall plug power supply. 3-36V DC, 3W min load 30" 20 AWG wire length Operating temperature : 14 to 104 deg F c-UL-us Class 2 listed for dry location only.
	PS-CC-350/12-HW	Input Voltage: 100 – 240 VAC Output Current: 350mA Constant Current Output Voltage: 3 ~ 36V DC Max. Output Wattage: 12W Operating temperature : -4° F to +122° F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 4 7/8"L x 1 3/4"W x ¾"H
	PS-CC-350/36-HW	Input Voltage: 100 – 277 VAC Output Current: 350mA Constant Current Output Voltage: 53 ~ 105V DC Max. Output Wattage: 36W Max. Operating temperature : 104° F c-UL-us Class 2 hard-wired power supply, listed for dry location only. Dims: 6 7/8"L x 1 3/4"W x 1"H
	DB-CC-R-PB/PB-6	6 Port distribution block with PB input and output connector. Includes 5 jumpers
	PS-CC-R-DC/PBF-3	3" Adapter cable. DC to PB connector.
	PS-CC-R-PB/HW-36	PS output cable HW to PB 36"
	PS-CC-R-PBF-PBF-36	36" Connecting cable with 2 PB Terminals
	PS-CC-R-EXT-PB-36	36" extension cable with PB connectors. Extends run between the fixture and distribution block.
	DB-CC-PB-JP	Jumper for plug type B Must be plugged into unused slots of the distribution block to complete the circuit 5 pieces are included with DB-CC-R-PB/PB-6
	DL-PS-EXT48 DL-PS-EXT96	48" LED Driver Extension Cable 96" LED Driver Extension Cable

DL-FLEX (-UP, -UP-HO, -UP-ULTRA)

LED FLEXIBLE LINEAR
DL-FLEX STATIC SERIES

Type	
Project	
Catalog No.	

DL-FLEX-UP

DL-FLEX-UP-HO

DL-FLEX-UP-ULTRA

DESCRIPTION

DL-FLEX series is a unique commercial grade modular lighting system featuring 3 levels of light output with a wide range of accessories and a variety of control options. This unique plug and play feature eliminates the need for field soldering; providing easy and simple installations. Made of highly flexible material that can be applied to most surfaces categorized as having high surface energy using 3M© double sided tape.

FEATURES

- Constant current IC component ensures every LED receives same specific amperage rating. This method ensures consistent levels of light output, color, no voltage drop, and controlled heat.
- Low profile and flexible (for 90° bends or tighter, do so at the cutting mark).
- Low power consumption
- No ultra violet (UV/IR) radiation, no mercury.
- Field cuttable
- Plug and Play
- Suitable for use in closet applications when installed with channel and lens in accordance to NEC

APPLICATIONS

- Cove, cabinet and soffit lighting
- Showcase and display
- Path and contour marking
- Accent, edge, and back lighting
- Signage

SPECIFICATIONS

Beam Angle	120°
Input Voltage	24V DC
Lamp Life	50,000 hours
LEDs (per ft)	18
Operating Temperature *	–22°F to 122°F
Max Run †	DL-FLEX-UP : 30 ft DL-FLEX-UP-HO : 30 ft DL-FLEX-UP-ULTRA : 20 ft
Min Run †	~4" (White, Blue, Green) ~6" (Red, Yellow)
Mounting	Tape, Channel
Environment	Indoor - Dry
Dimming	TRI-AC with DL-PS-XX/24-DIM 0-10V with LC-DIM series
Certifications	c UL US LISTED
Warranty	5 Years – see published warranty terms for detailed information.

* Exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, and/or adversely impact color consistency. It is recommended adequate airflow and heatsinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure and void the warranty.

† Single runs can not exceed max run value. Cuts can only be made on the cutting mark as indicated.

LUMEN DATA

DL-FLEX-UP

Color Temp	Watts * (per ft)	Lumens (per ft)	Efficacy (lm/W)	CRI
2500-2800K	1.3	115	88	~ 85
3000-3300K	1.3	115	88	~ 85
4000-4300K	1.3	120	92	~ 85
5000-5300K	1.3	123	95	~ 85
6000-6500K	1.3	125	96	~ 85
Red	0.9	32	36	-
Yellow	0.9	32	36	-
Green	1.3	28	22	-
Blue	1.3	14	11	-

DL-FLEX-UP-HO

Color Temp	Watts * (per ft)	Lumens (per ft)	Efficacy (lm/W)	CRI
2500-2800K	2.7	220	81	~ 85
3000-3300K	2.7	220	81	~ 85
4000-4300K	2.7	225	83	~ 85
5000-5300K	2.7	228	84	~ 85
6000-6500K	2.7	230	85	~ 85
2500-2800K	2.7	176	64	~ 96
4000-4300K	2.7	189	70	~ 96

DL-FLEX-UP-ULTRA

Color Temp	Watts * (per ft)	Lumens (per ft)	Efficacy (lm/W)	CRI
2500-2800K	4.2	300	71	~ 85
3000-3300K	4.2	340	81	~ 85
4000-4300K	4.2	345	82	~ 85
6000-6500K	4.2	350	83	~ 85

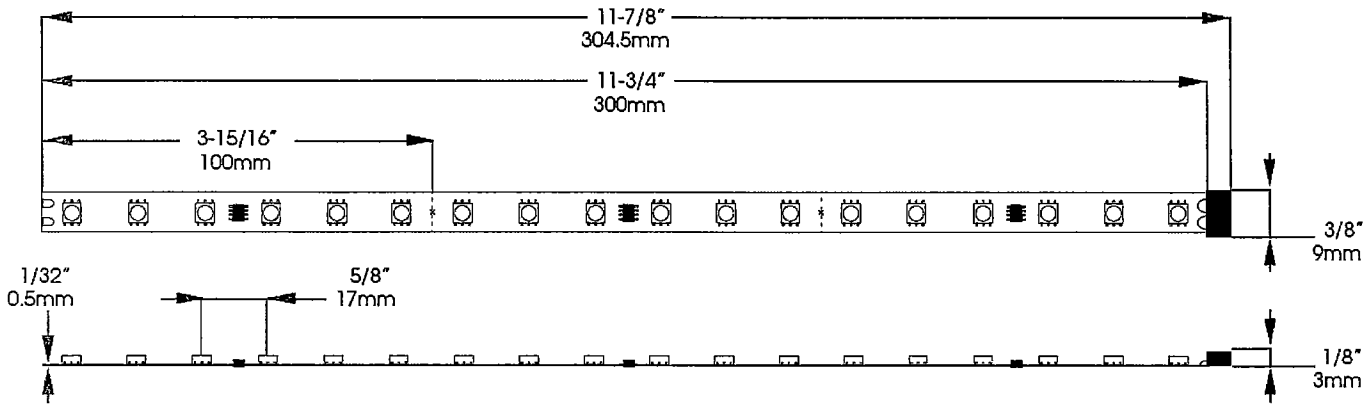
* Max value

DL-FLEX (-UP, -UP-HO, -UP-ULTRA)

LED FLEXIBLE LINEAR
DL-FLEX STATIC SERIES

Type	
Project	
Catalog No.	

DIMENSIONS



ORDERING INFORMATION

SERIES	–	MODEL	–	COLOR
DL-FLEX	–	UP	–	

27 : 2500-2800K
30 : 3000-3300K
40 : 4000-4300K
50 : 5000-5300K
60 : 6000-6500K

R : Red
Y : Yellow
G : Green
B : Blue

DL-FLEX-UP is packed in 30 ft roll lengths.
Specify required amount of 1 ft lengths before the ordering number
Example: 30 x DL-FLEX-UP-30

SERIES	–	MODEL	–	COLOR
DL-FLEX	–	UP-ULTRA	–	

27 : 2500-2800K
30 : 3000-3300K
40 : 4000-4300K
60 : 6000-6500K

DL-FLEX-UP-ULTRA is packed in 20 ft roll lengths.
Specify required amount of 1 ft lengths before the ordering number.
Example: 20 x DL-FLEX-UP-ULTRA-20

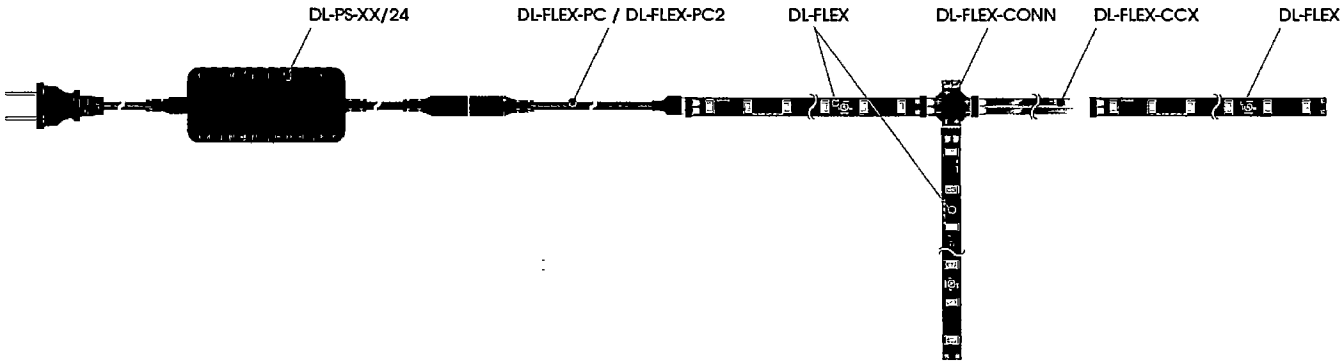
SERIES	–	MODEL	–	COLOR
DL-FLEX	–	UP-HO	–	

27 : 2500-2800K
30 : 3000-3300K
40 : 4000-4300K
50 : 5000-5300K
60 : 6000-6500K
279 : 2500-2800K (96 CRI)
409 : 4000-4300K (96 CRI)

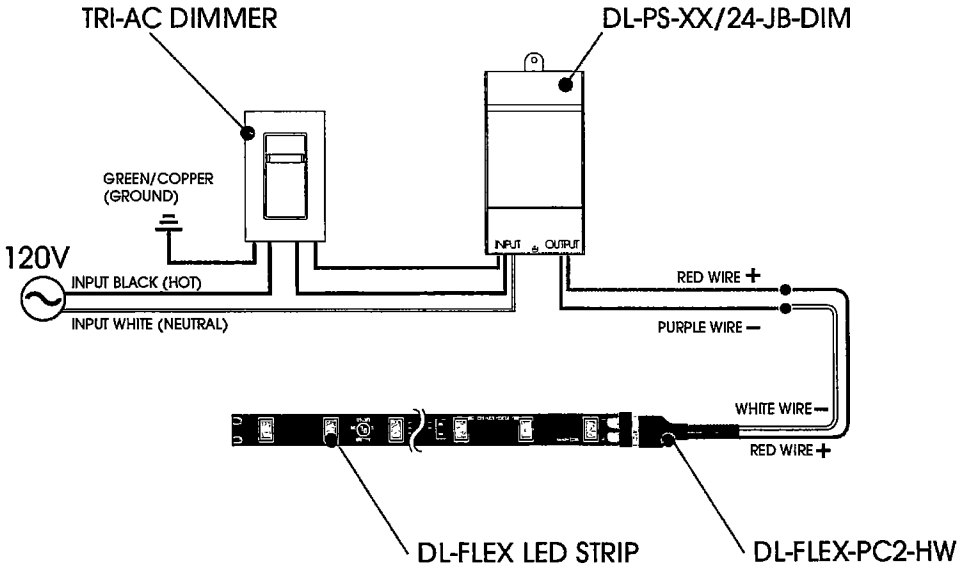
DL-FLEX-UP-HO is packed in 30 ft roll lengths.
Specify required amount of 1 ft lengths before the ordering number.
Example: 30 x DL-FLEX-UP-HO-30

WIRING DIAGRAMS – For reference purposes only. Not for installation. Not to scale.

PLUG & PLAY • On/off
For dimming see LC-DIM series specification sheet

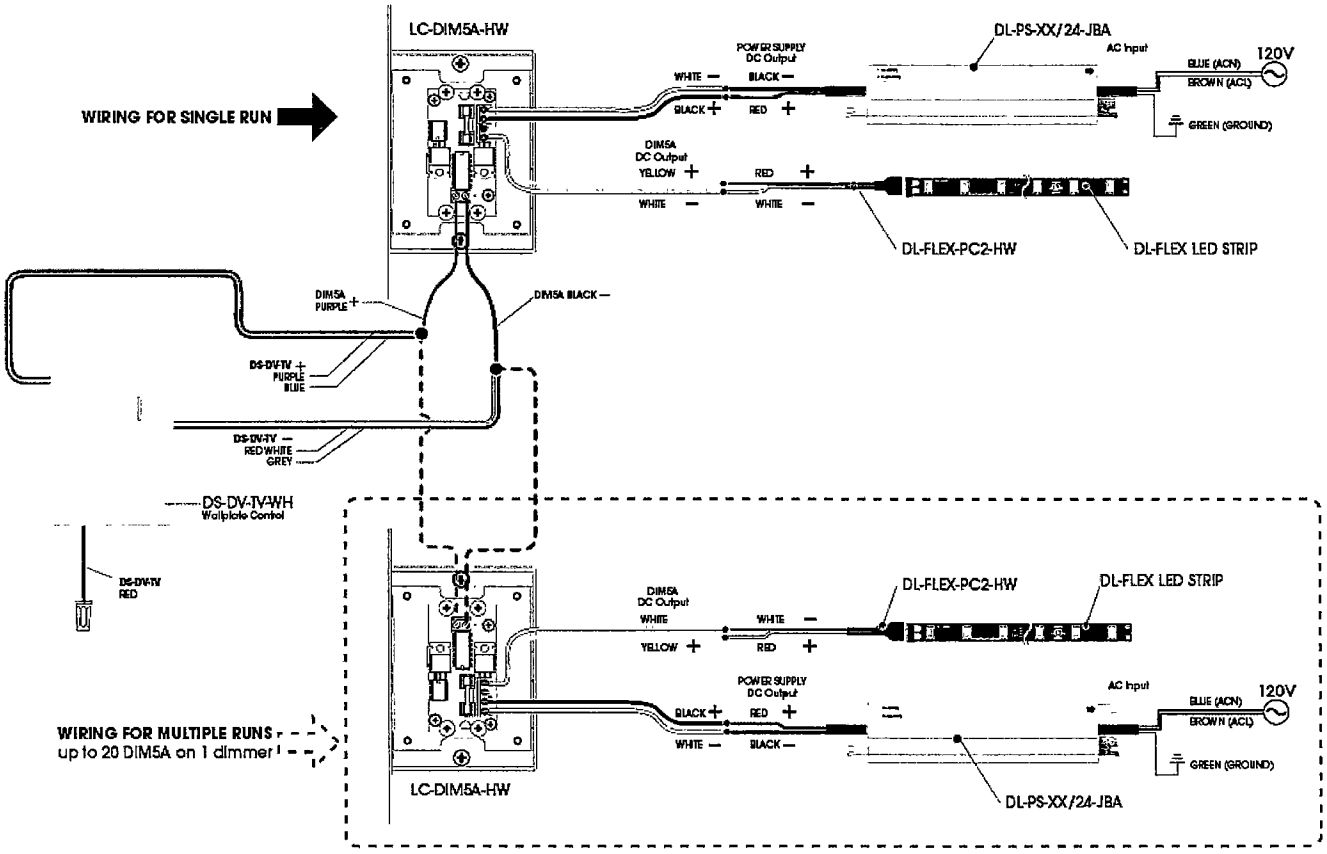


HARDWIRE • TRI-AC Dimming
For dimming see DL-PS-XX/24-JB-DIM series specification sheet (minimum 8W load is required)



HARD-WIRE • 0-10 Dimming for multiple runs

30ft. MAX from LC-DIM5A-HW to DS-DV-TV-WH



DL-FLEX (-UP, -UP-HO, -UP-ULTRA)

LED FLEXIBLE LINEAR
DL-FLEX STATIC SERIES

Type	
Project	
Catalog No	

POWER SUPPLIES – See Specification Sheets for more information.

If the Max Load of a power supply exceeds the fixture's Max Run, then you may install multiple runs per given power supply.
Wattage = Max power capacity of power supply. May need to be de-rated if operating at max temperature.
Max Load = Fixture quantity a power supply can power.
Max Run = Maximum length of a single run.

Hard-Wire Dimmable Power Supplies♠ Dry and Wet Location (IP67) UL Listed (with Junction Box)		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**
DL-PS-40/24-JB-DIM*	40	7-27	10-40	3-13	2-8
DL-PS-60/24-JB-DIM*	60	7-41	10-60	3-20	2-12
DL-PS-100/24-JB-DIM*	100	7-69	10-100	3-33	2-21

Hard-Wire Dimmable Power Supplies♠ Dry and Wet Location (IP67) UL Recognized		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**	**Max Load (ft) 8W min.**
DL-PS-40/24-HW-DIM**	40	7-27	10-40	3-13	2-8
DL-PS-60/24-HW-DIM**	60	7-41	10-60	3-20	2-12
DL-PS-100/24-HW-DIM**	100	7-69	10-100	3-33	2-21

Hard-Wire Power Supplies Dry Location UL Listed (with Junction Box)		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**
DL-PS-20/24-JBA	20	13	20	6	4
DL-PS-60/24-JBA	60	41	60	20	12
DL-PS-96/24-JBA	96	66	96	32	20

Hard-Wire Power Supplies Wet, Damp, or Dry Location UL Listed (with Junction Box)		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**
DL-PS-80/24-JB-OD	80	55	80	26	17
DL-PS-96/24-JB-OD	96	66	96	32	20

Hard-Wire Power Supplies Dry Location UL Recognized (with Junction Box)		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**
DL-PS-35/24-JB	35	24	35	11	7
DL-PS-60/24-JB	60	41	60	20	12
DL-PS-100/24-JB	96	66	96	32	20

Plug & Play Power Supplies Dry Location UL Listed		**DL-FLEX-UP** White, Green, Blue Max Run : 30 ft 1.3 W/ft	**DL-FLEX-UP** Red, Yellow Max Run : 30 ft 0.9 W/ft	**DL-FLEX-UP-HO** Max Run : 30 ft 2.7 W/ft	**DL-FLEX-UP-ULTRA** Max Run : 20 ft 4.2 W/ft
Model Number	**Wattage**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**	**Max Load (ft)**
DL-PS-WP24/24	24	16	24	8	5
DL-PS-24/24	24	16	24	8	5
DL-PS-48/24	48	33	48	16	10
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12
DL-PS-100/24	90	62	90	30	19
DL-PS-100/24-CL2	96	66	96	32	20

* UL listed Class 2 power supply.
** UL Recognized Class 2 power supply.
♠ Dimmable with TRIAC dimmer, requires a minimum 8W of load.

DL-FLEX (-UP, -UP-HO, -UP-ULTRA)

LED FLEXIBLE LINEAR
DL-FLEX STATIC SERIES

Type	
Project	
Catalog No.	

ACCESSORIES

	Part Number	Description
	DL-FLEX-X-CONN	Universal "X" Connector Connects four DL-FLEX strip. Cut to make 2-way "L" connection or 3-way "T" connection.
	DL-FLEX-UP-4-(27/30/40/60/B/G)	4" DL-FLEX-UP Available in 2700K, 3000K, 4000K, 6000K, Blue, Green.
	DL-FLEX-UP-6-(R/Y)	6" DL-FLEX-UP Available in Red and Yellow.

	Part Number	Description
	DL-FLEX-CC6	6" Blank FLEX-UP tape mid-connector.
	DL-FLEX-CC12	12" Blank FLEX-UP tape mid-connector.
	DL-FLEX-HO-4-(27/30/40/60)	4" DL-FLEX-UP-HO Available in 2700K, 3000K, 4000K, 6000K
	DL-FLEX-UP-ULTRA-4-(27/30/40/60)	4" DL-FLEX-UP-ULTRA Available in 2700K, 3000K, 4000K, 6000K

HARD-WIRE POWER CONNECTORS

	Part Number	Description
	DL-FLEX-PC-HW	19" Input Power Connector * 13-1/2" wire / 5-1/2" FLEX-UP tape. Connects hard-wire equipment to DL-FLEX-UP. Recommended for tight bends entering the FLEX tape.
	DL-FLEX-PC2-HW	13 5/8" Input Power Connector * 13-1/2" wire / 3/8" FLEX-UP tape. Connects hard-wire equipment to DL-FLEX-UP.

	Part Number	Description
	DL-FLEX-PT-HW	19" Output Power Connector * 13 1/2" Bare Wire / 5 3/4" FLEX-UP tape with FLEX-UP connector. Connects DL-FLEX-UP to hard-wire equipment.

PLUG & PLAY POWER CONNECTORS

	Part Number	Description
	DL-FLEX-PC	18" Input Power Connector * 12-1/4" cable / 5-5/8" FLEX-UP tape. Connects plug and play equipment to DL-FLEX-UP. Recommended for tight bends entering the FLEX tape.
	DL-FLEX-PC2	12 5/8" Input Power Connector * 12-1/2" cable / 3/8" FLEX-UP tape. Connects plug and play equipment to DL-FLEX-UP.

	Part Number	Description
	DL-FLEX-PT	13" Output Power Connector * 6-1/8" Bare Wire / 5 3/4" FLEX-UP tape with FLEX-UP connector. Connects plug and play equipment to DL-FLEX-UP.

* All dimensions are nominal

DIMMING OPTIONS

DS–DV–TV–WH	Wall–Plate Dimmer
LC–DIM5A	0-10V Plug & Play Dimmer
LC–DIM5A–HW	0-10V Hardwire Dimmer
LC–DIM100–RF	Plug & Play Remote Step Dimmer
LC–DIM100–RF–HW	Hardwire Remote Step Dimmer
LC–200–RPT	Power Repeater
LC–DIM200–RF–HW	Simple Hand-held Radio Frequency Dimmer Controller
LC–RF–400H–DIM	Hand-held Radio Frequency Dimmer Controller
LC–RF–400W–DIM	Wall Mounted Radio Frequency Dimmer Controller
LC–RF–402W–DIM	Wall Mounted Dual Radio Frequency Dimmer Controller
LC–RF–400–RCV	Radio Frequency Receiver

See our complete line of remote, wall mounted and hand-held **DIMMING OPTIONS** online for more information.

MOUNTING ACCESSORIES

See Channel Feature Matrix below.
See our complete line of rough-in, recessed and surface mount **FLEXIBLE LINEAR MOUNTING CHANNELS** online for more information.

DL-FLEX (-UP, -UP-HO, -UP-ULTRA)

LED FLEXIBLE LINEAR
DL-FLEX STATIC SERIES

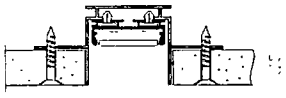
Type	
Project	
Catalog No.	

CHANNEL FEATURE MATRIX

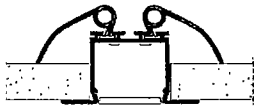
	ROUGH-IN				MEDIUM DEPTH PROFILE					SMALL DEPTH PROFILE					BASIC		
	CH-RI-11	CH-RI-12	CH-RI-13	CH-RI-14	CH-ME-21	CH-ME-22	CH-ME-23	CH-ME-24	CH-ME-25	CH-SM-31	CH-SM-32	CH-SM-33	CH-SM-34	CH-SM-35	DL-FLEX-1 CH6	DL-FLEX-1 CH6-B	DL-FLEX-1 OD-CH6
DL-FLEX-UP	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL-FLEX-UP-HO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL-FLEX-UP-ULTRA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL-FLEX-HD	○	○	○	○								○	○				
DL-FLEX-UP-RGB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL-FLEX-UP-CTA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL-FLEX-OD	○	○	○	○													○
Surface Mounting			C	C/E	D		D	D	D	D		D		D	D	D	D
45° Mounting								●						●			
Recessed – For Miter Grooves					F	G				F	G	F	G				
Rough-in – For Walls & Ceilings	A/B	A	A	A													
Adjustable Mounting										●						●	
Outdoor Mounting																	●
Flangeless			●	●	●		●	●	●	●		●		●	●	●	●
Flanged	●	●				●					●		●				
Lens Included										●	●	●	●	●			
Lensless															●	●	●
Lens – UV and Fire Rated up to 240F option	●	●	●		●	●	●	●	●								
Small Profile Depth – Diffused Light										●	●	●	●	●	●	●	●
Medium Profile Depth – More Diffused Light					●	●	●	●	●								
Large Profile Depth – Best Diffused Light	●	●	●	●													
Aluminum – Anodized	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
MDF (easy paintable)							●										
6 Ft. Length										●	●	●	●	●	●	●	●
6-1/2 Ft. Length (2 meters)	●	●	●	●	●	●	●	●	●								

SUGGESTED MOUNTING TECHNIQUES

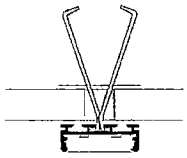
A Drywall Recessed Rough-In Mounting with Channel Housing



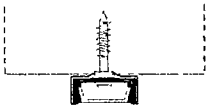
B Drywall Recessed Rough-In Mounting with Spring Clip



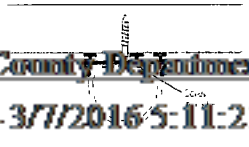
C Surface Mounting onto Drywall or Drop Ceilings



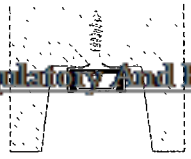
D Surface Mounting with Bracket



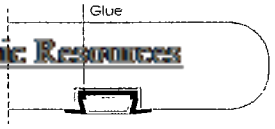
E Surface mounting by Sliding onto Flat Head Screws



F Recessed Mounting into Mitered Groove with Bracket

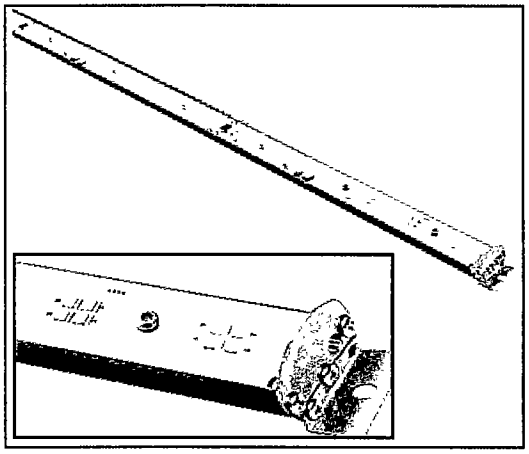


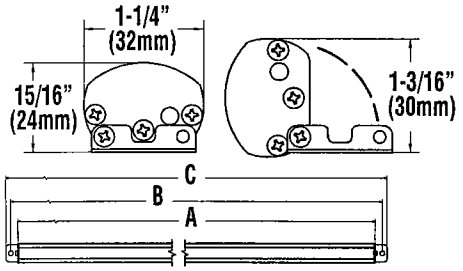
G Recessed Mounting into a Mitered Groove using a flanged Channel



LED LINEAR HIGH OUTPUT LIGHT (LXC2)

Crossover® LED LIGHTING TECHNOLOGY





CATALOG#	A	B	C
LXC2 12	12" (305mm)	12.75" (324mm)	13.125" (333mm)
LXC2 18	18" (457mm)	18.75" (476mm)	19.125" (486mm)
LXC2 24	21" (533mm)	21.75" (552mm)	22.15" (562mm)
LXC2 30	27" (686mm)	27.75" (705mm)	28.125" (714mm)
LXC2 36	33" (838mm)	33.75" (857mm)	34.125" (867mm)
LXC2 42	39" (991mm)	39.75" (1089mm)	40.125" (1019mm)
LXC2 46	45" (1143mm)	45.75" (1162mm)	46 125" (1172mm)
LXC2 48	48" (1219mm)	48.75" (1238mm)	49 125" (1247mm)
LXC2 96	96" (2438mm)	96.75" (2457mm)	97 125" (2467mm)

APPLICATIONS - Display Case Lighting, Cove Lighting, Accent Lighting, Shelf Lighting, and Under Cabinet Lighting; Interior.

PRODUCT HIGHLIGHTS

- **Long Lasting Sparkle -** LED light beam contains no heat, and no UV, which means no degradation in color or quality of the product under display.
- **Color Consistency -** Exceptional color binning +/- 5%, no visible difference from LED to LED
- **Aimable -** Fixture adjusts from 0° to 90° to put the light where you want it.
- **"Green" Energy-Saving -** Reduces gas emissions, slashes operating costs and eliminates costly lamp disposal involving mercury waste.
- **Dramatically Lower Maintenance Costs -** Over 100,000-hour LED source extends life 3 to 5 times as compared to conventional fluorescent.
- **Easy Installation, New or Retrofit -** Mounts with available brackets or customer adhesive. Lightweight (< 0.5 lb. per foot)
- **Separate Power Supply -** Fixtures are connected easily to a universal voltage power supply (ordered separately).

LEDS - Select high-brightness LEDs. Expected life: over 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance. Available in cool white (CW - 5000K, CRI > 70), neutral white (NW - 4000K, CRI > 85) and warm white (WW - 3500K CRI > 85). (All values nominal).

DRIVER - State-of-the-art driver technology designed specifically for the application is integrated on-board, providing unsurpassed system efficiency. Complies with IEC and FCC standards.

ELECTRICAL - Fixtures operate on intrinsically-safe 24 VDC, which means no risk to customer or associates. Separate power supply operates on 120-277 VAC, 50/60 Hz. See accessory page.

BEAM SPREAD- 120° symmetrical distribution.

LIGHT OUTPUT - 875 lumens per foot (CW), 800 lumens per foot (NW), and 780 lumens per foot (WW), with an input power of 7 watts per foot.

LENS- Supplied with protective clear plastic lens.

HOUSING- Anodized aluminum extrusion

WIRING- Integrated connection system makes it simple to create continuous lines of LED lighting. The fixtures can be connected directly together or spaced apart as needed, using the optional jumper cables. Use appropriately sized 2-conductor to minimize voltage drop on long feeds from power.

OPERATING TEMPERATURE- -40°C to +50°C (-40°F to +122°F).

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

LISTING- Listed to U.S. and International safety standards. Suitable for damp locations.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

ARRA Funding Compliant · c UL us LISTED damp location · CE

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE **LXC2 36 LED CW 24**

Prefix	Length			Light Source	Color Temperature	Input Voltage
LXC2	12 - 12"	30 - 30"	46 - 46"	LED	CW - Cool White (5000K)	24 - 24 VDC
	18 - 18"	36 - 36"	48 - 48"		NW - Neutral White (4000K)	
	24 - 24"	42 - 42"	96 - 96"		WW - Warm White (3500K)	

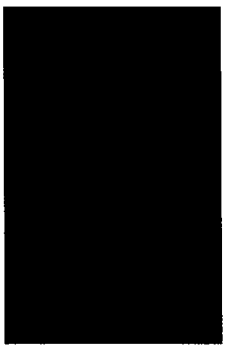
Note: Power supply is required, please see LED Linear Accessories page.

LSI Industries™

Project Name _____ Fixture Type _____

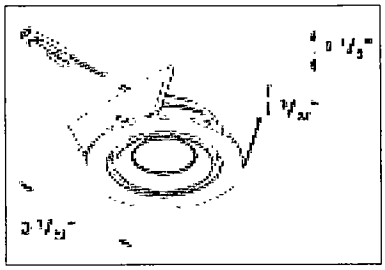
Catalog # _____

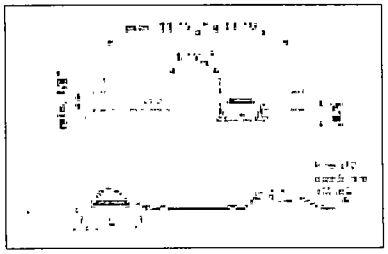
SR68-LED



Recessed Swivel LED Spotlight With High Power LEDs

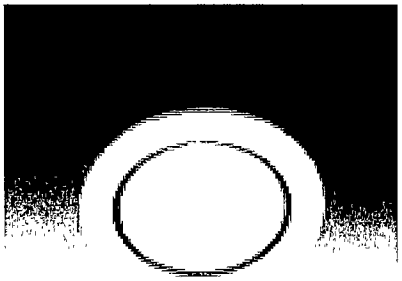
The SR68-LED, Hera's newest addition to its swivel spotlight family is in a class by itself. Designed for applications where high levels of light are desired, this spotlight is perfect for large arrangements where product presentation is crucial. With swivel and tilt capabilities for flexible applications, these spotlights are perfect for creating an attractive and well-balanced display. The SR68-LED has a luminous efficacy of 59 lm/W.

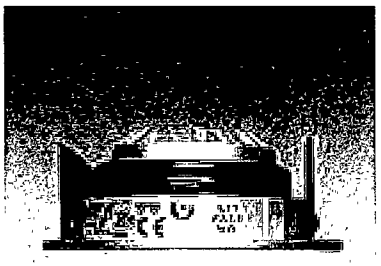




Product-Features

- High quality brushed aluminum housing
- Energy efficient using only 4.8 W
- Stocked in 3000K and 4100K
- Available from 2700K to 6500K by special order
- 50,000 hours useable life
- Excellent color rendering, CRI>85
- 20° swivel and tilt to either side
- Recess depth, either 1 ½" or 2 $^{13}/_{32}$"
- Approved for use in closet applications
- Attached 98" connecting cable with plug-in connector
- No UV rays
- To be used with 350 mA driver
- Dimmable with available accessories





350 mA - 4.8W

What you'll need to buy

Spotlights
SR68-LED

Warm White

Finish	Watt	Lumens	Code No.
Brushed Aluminum	4.8	283	SR68/WW

Cool White

Finish	Watt	Lumens	Code No.
Brushed Aluminum	4.8	283	SR68/CW

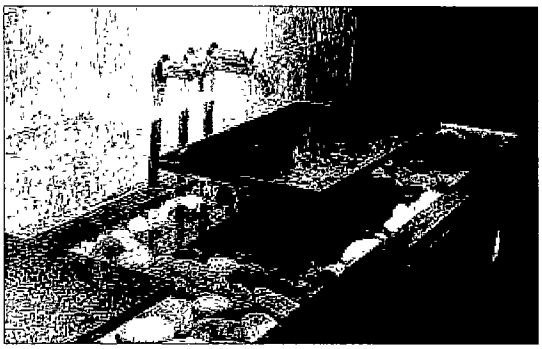
LED Power Supply (for specs refer to pages 61-63)

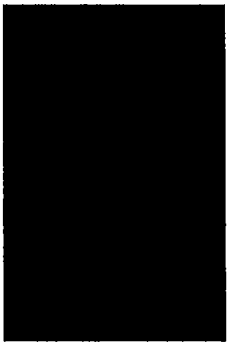
Description	Code No.
Constant Current Driver 10 Watt	PSLED/10
Dimmable Constant Current Driver 18 Watt	PSLED/DIM/S
LED Dimmer Controller	DIMCONTROL

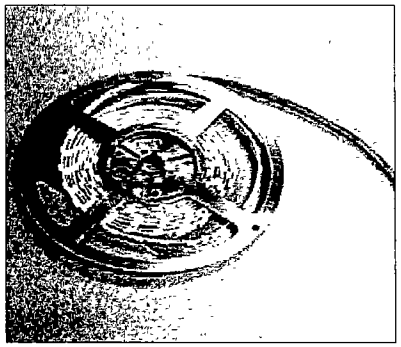
Cables and Connectors

Description	Code No.
Connecting Cable 36"	LEDCC36
Connecting Cable 72"	LEDCC72

TapeVE-LED

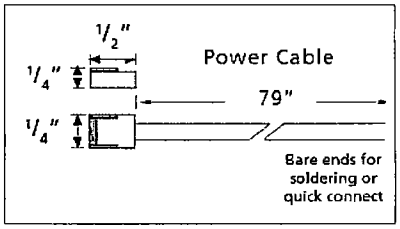


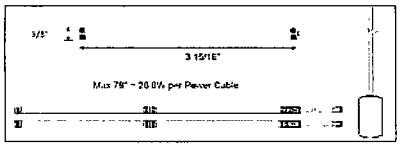




TapeVE-LED

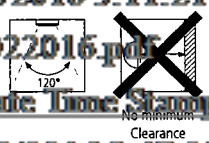
TapeVE-LED has a more cost effective price for larger applications used in accent lighting for retail displays, furniture, cabinets or boats. Illuminates with low heat and no UV which makes it ideal for delicate products and artwork. The solderless quick-connect system allows for easy installation. The flexible mounting allows for positioning in and around most angles.





Product-Features

- Self adhering, Flexible LED strip, 4.32 W/ft.
- Can be cut in 3 15/16" increments. 6 LEDs/1.44 W per section, 4.32 W /ft.
- Sold in 196" rolls.18 LEDs/ft. & 300 LEDs per roll
- Product size: 196" x 3/8"
- Stocked in 3000K, 4100K and 6500K
- Other Kelvin temperatures available by special order
- Finish: white tape with exposed LEDs; no UV rays
- 50,000 hours useable life
- Quick and easy installation
- Solderless quick-connect system provides easy installation for various lengths
- Extrusions come standard in 48" and can be cut to various lengths
- One full roll per power cable (20 sections)
- To be used with 24 Vdc LED Driver
- Dimmable with optional accessories



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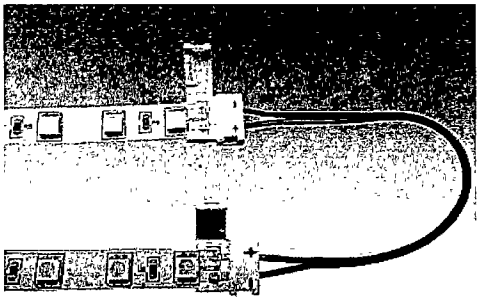

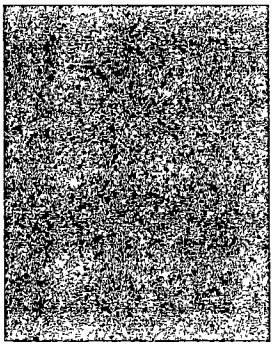

What you'll need to buy

Light Fixtures

TapeVE-LED

Warm White

Length	Lumens	Code No.
196" Roll	360/ft.	TAPEVE-LED/WW

Cool White

Length	Lumens	Code No.
196" Roll	360/ft.	TAPEVE-LED/CW
196" Roll 6500K	361/ft.	TAPEVE-LED/6500

LED Constant Voltage Drivers (see page 60)

Description	Code No.
6 Watt	STICKPS24/6WATT
30 Watt	STICKPS24/30HE
75 Watt	STICKPS24/75
96 Watt	STICKPS24/96/DIM

Optional Accessories (see pages 63-65)

Description	Code No.
Dimmer	STICKPSDIM
Dimmer Controller	DIMCONTROL
Dimming Distributor Cable	STICKDIM/YCABLE
Low Voltage Switch	IRSWITCH
Remote Control Dimmer	RCPSDIM
Rocker Switch	SWITCH/PS24

Cables and Connectors

Description	Code No.
79" Power Cord (quick connect)	TAPEVE/PCN/S
79" Power Cord (solder)	TAPEVE-LED/PC
Connecting Cable 6"	TAPEVE/CC6/S
Connecting Cable 12"	TAPEVE/CC12/S
Power Cord Extension 39"	KB12LEDCC39
Power Cord Extension 98"	KB12LEDCC98
Direct Connector	TAPEVE-LED/DC
Terminal Block	STICKTB

Extrusions (see page 22)

Description	Code No.
Frosted cover	TAPEVE-LED/EXT1
Frosted cover U-Channel with wings	TAPEVE-LED/EXT2